

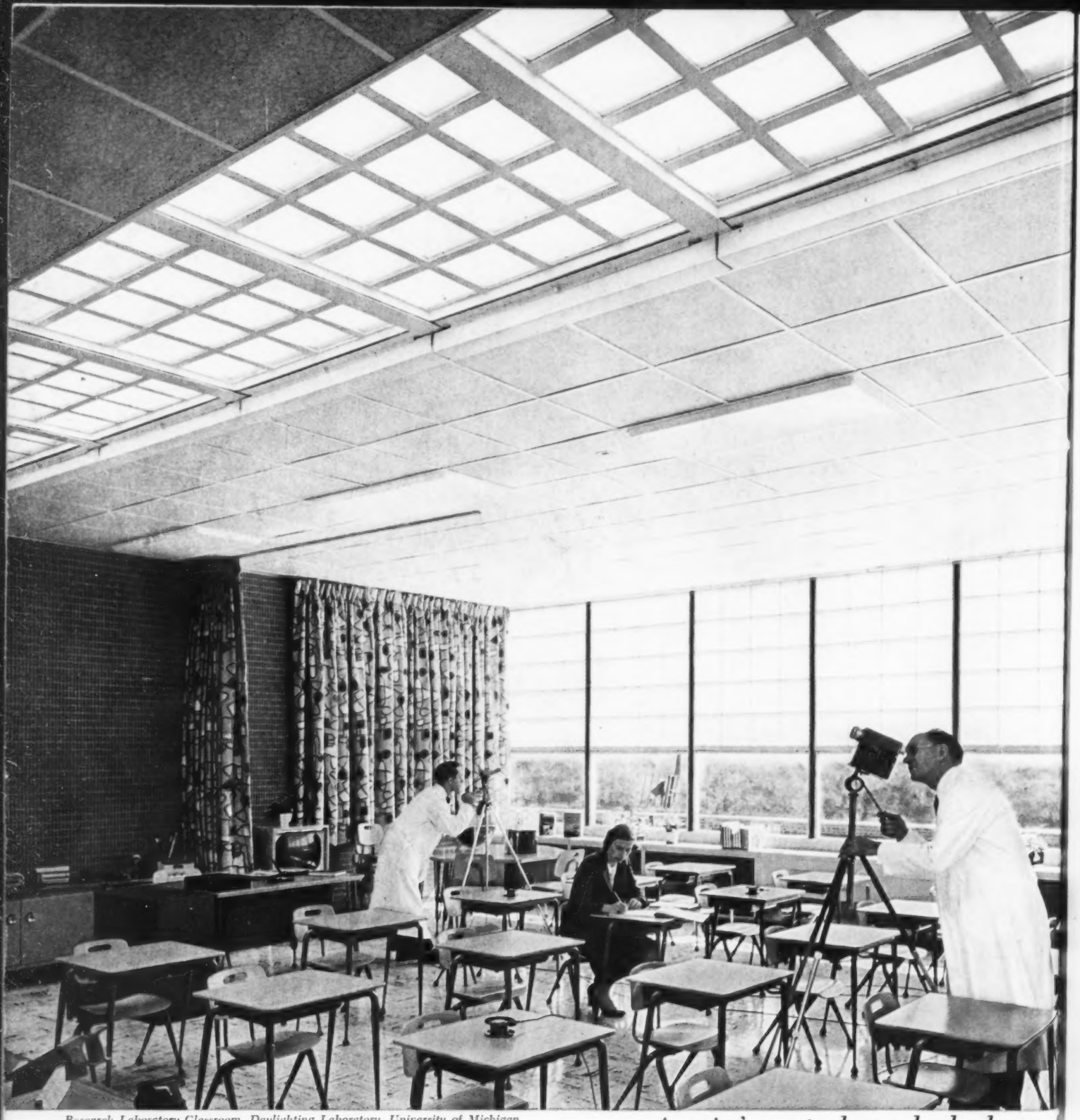
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BUILDING TYPES STUDY NUMBER 206

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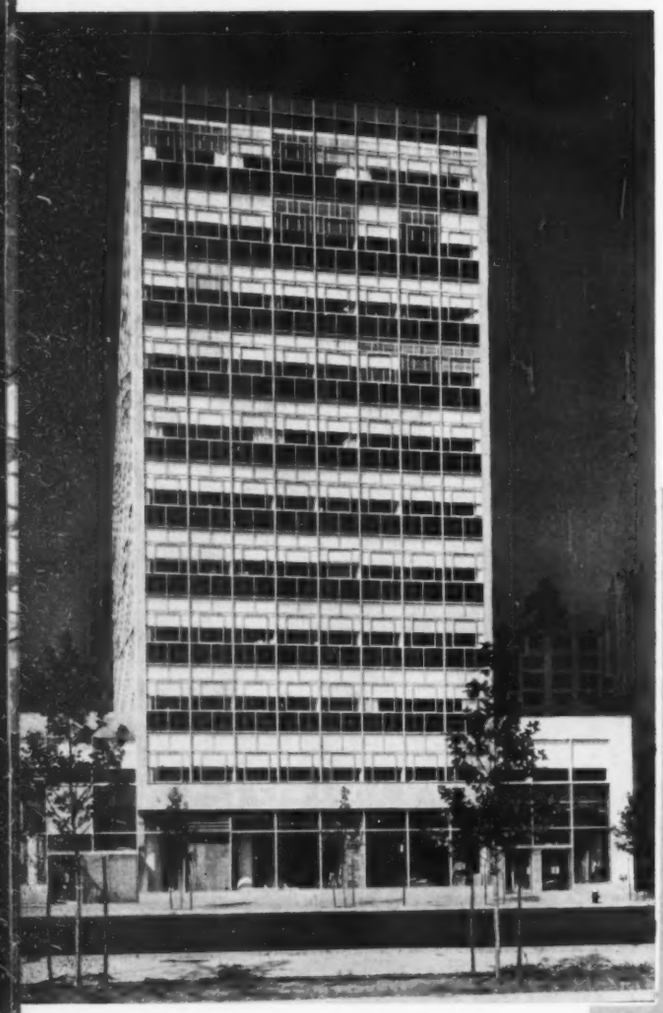


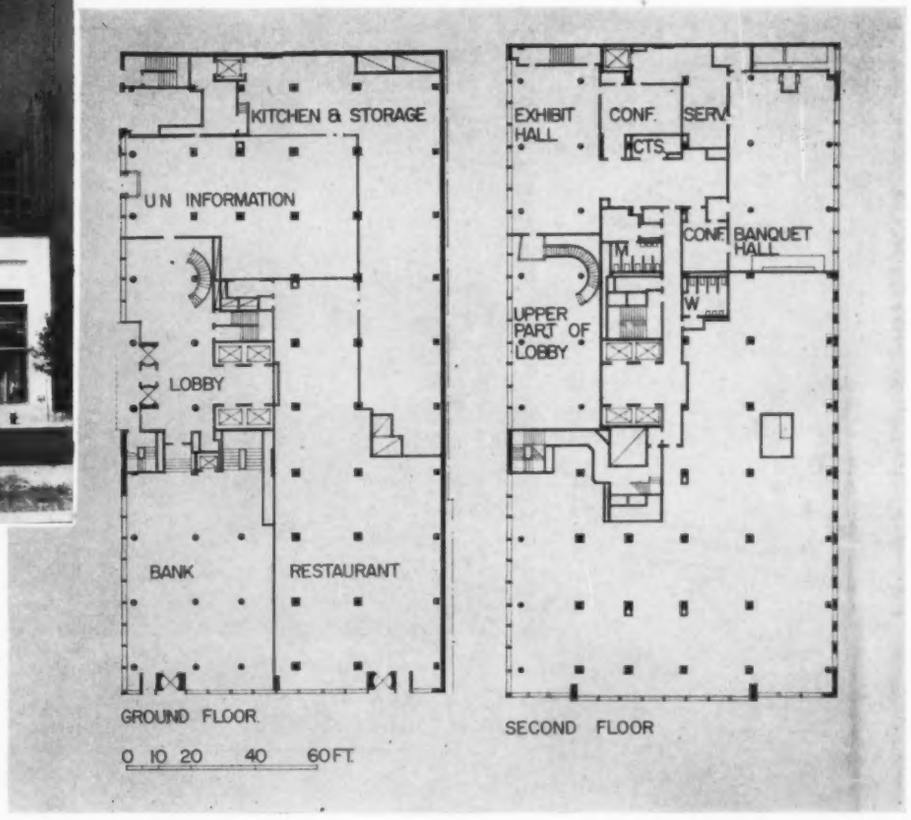
Joseph W. Molitor

CARNEGIE ENDOWMENT FOR INTERNATIONAL PEACE

INTERNATIONAL CENTER, NEW YORK, N. Y.

Harrison & Abramovitz, Goldstone & Abbe, Architects | James Dawson, Supervising Engineer | Severud-Elstad-Krueger, Structural Engineers | Syska & Hennessy, Mechanical and Electrical Engineers | Caudwell-Wingate, General Contractors

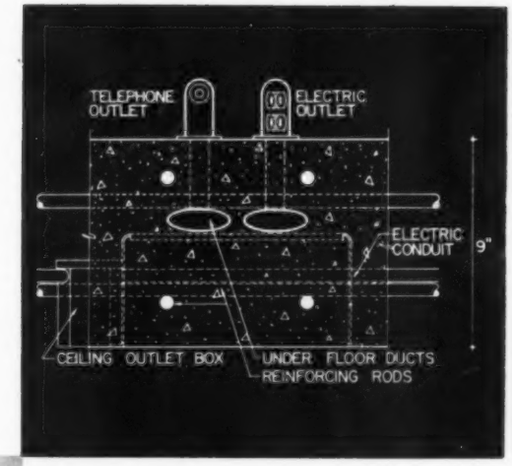


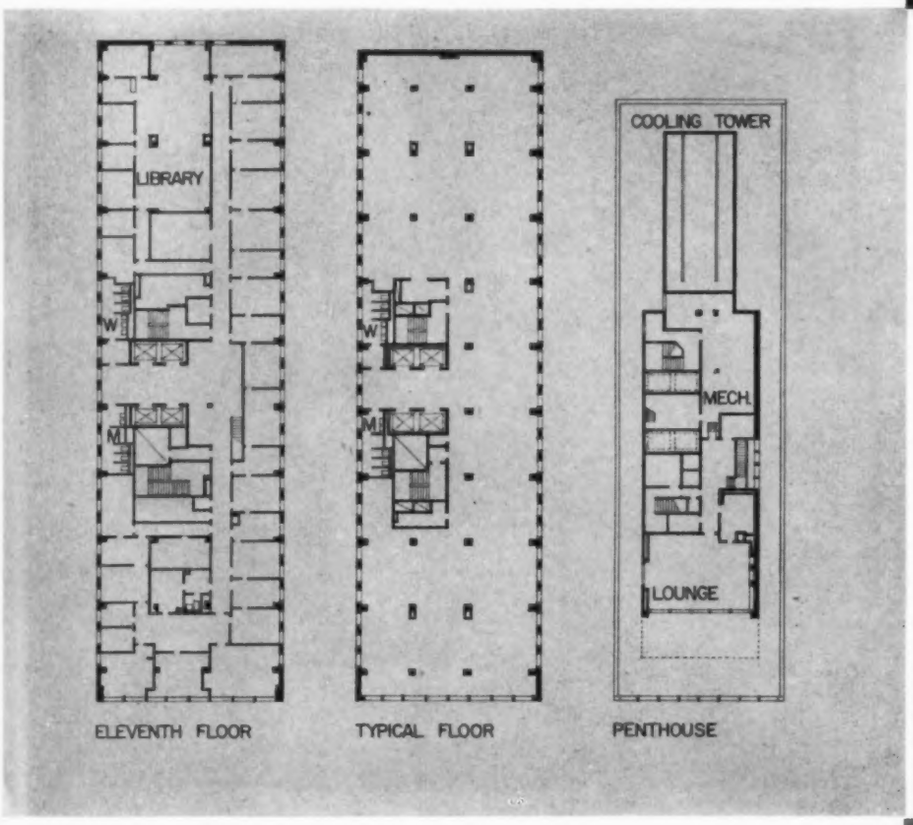


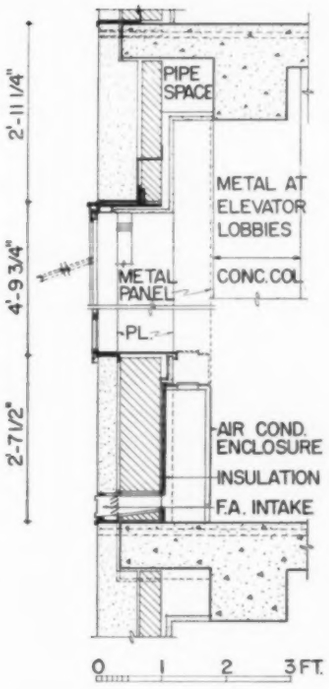
ORGANIZATIONS IN THE CARNEGIE ENDOWMENT INTERNATIONAL CENTER

The Jane Addams Peace Association
Committee for World Development and World Disarmament, and Observer to the United Nations
American Association for the United Nations, Inc.
American Friends Service Committee, Inc. The United Nations Program
The American Heritage Foundation
The American-Korean Foundation
Association for the Aid of Crippled Children
Board on World Peace of the Methodist Church
Carnegie Endowment for International Peace
Child Welfare League of America, Inc.
Citizens Conference on International Economic Union
Committee for Free Asia
Community Chests and Councils of America, Inc.
Council on Social Work Education
Educational Film Library Association, Inc.
Film Council of America
Foreign Policy Association
The Girls' Friendly Society of the U. S. A.
Guideposts
Information Center for the United Nations
Women United for the United Nations
International Conference of Social Work
International Development Placement Association
The International Film Foundation
International Labour Organisation Liaison Office with the United Nations
International Social Service
Life Insurance Medical Research Fund
The Lucius N. Littauer Foundation
National Conference of Social Work
National Council of Women of the U. S., Inc.
National Recreation Association
National Social Welfare Assembly, Inc.
The Royal Institute of International Affairs New York Publications Office
Save the Children Federation
Unitarian Service Committee, Inc.
United Community Defense Services, Inc.
United Defense Fund
United Housing Foundation
The World Medical Association
World Veterans Fund, Inc.

The Carnegie Endowment's International Center, as we reported in June 1952, is headquarters for a number of international yet non-governmental agencies. The Endowment's offices are on the eleventh and penthouse floors; ground floor is mostly commercially rentable space; other organizations occupy remaining floors







None of the organizations, including the Endowment, could allocate an undue amount of money for rental for quarters. Hence the economical combination of reinforced concrete and steel frame, the services incorporated in the 9-in.-thick floor slab, absence of furring or cinder fill (which, with low ceilings, cut total height enough to permit 11 stories in normal 10-story height) and masonry walls on the north and south façades



INTERNATIONAL CENTER



Second floor contains meeting rooms used by all the organizations, often in conjunction with U. N. activities. Exhibition hall, below, serves also for meetings and as a lounge. Interiors, designed by Knoll Associates as consultants to the architects, employ standard furniture, a few special pieces, strong color, textured fabrics, and contemporary paintings (see succeeding pages).





Exhibition hall, above, is reached directly by stair from entrance lobby, right. Characteristic of both rooms is a feeling of simplicity and dignity; yet both have a personal quality which emphasizes the concern of the many organizations in the Center with human affairs. On facing page, top to bottom: typical offices of the Endowment and of the Foreign Policy Association, and the Endowment's reference library.

The east façade of the Carnegie Endowment International Center recalls the U. N. Secretariat nearby; north and south walls, however, are masonry pierced by conventional windows and fresh air intakes for the unit air conditioners, one per bay on each floor. Solid walls on these two faces cut the air conditioning load and proved cheaper to build, in this instance, than metal-and-glass walls. The unit conditioners were necessary because low story heights made it inadvisable to fur down ceilings to cover the duct-work which a central-supply air conditioning system would have required.

Two photos at right show typical office space. At top is an Endowment office, opening from a conventional corridor. Other photo, in quarters of the Foreign Policy Association on a lower floor, uses a wider corridor in which are cubicles for secretaries; these are separated by low acoustical partitions. Private offices reached through them are somewhat smaller though quite suitable for routine purposes.





Joseph W. Molitor



INTERIOR DESIGN BY A CONSULTANT

Knoll Associates Planning Unit, Interior Design Consultants

A MORE UNIFIED CONCEPT results when the interior of a building is carried to completion under the architect's direction, rather than by others working independently with the owner. In addition, the architect thereby both widens his area of activity and adds to his income. Historically, interiors have been the concern of the architect, and only in comparatively modern times have they been done by others.

One architect will tell you he does interior work and that it turns a profit; another will say it is time consuming and thus a money loser for his office. A possible answer for the latter lies in the hiring of a competent interior design consultant, one who understands the architect's approach and who has a technical background. By this procedure, the architect retains control, receives a nominal administrative fee, and an integrated design results.

Such was the method followed in the design for the International Center interiors, and the result is both distinguished and a source of gratification to all concerned. Without sacrificing the needs of the building's "working areas" and yet economizing in every aspect of their execution, the architect and the Knoll Associates Planning Unit created a luxurious penthouse lounge and at the same time held total cost to the budget figure. It was designed as a "special room for special functions" and the interior consultant was able to give this area the dignity demanded by its United Nations surroundings.

For the interior design plan of the building, there were two major problems; that of flexibility in the use of space, and that of economy.

In terms of plan, the functions of the spaces are divided into two categories: (1) Administration for the Carnegie Foundation, principal occupant, which includes executive offices, library, general offices; and (2) conference and assembly areas for all tenants for group meetings which are carried on continuously during the day and evening. The problem was further extended when the clients stated they did not know exactly what demands on space would be made when they moved into new quarters.

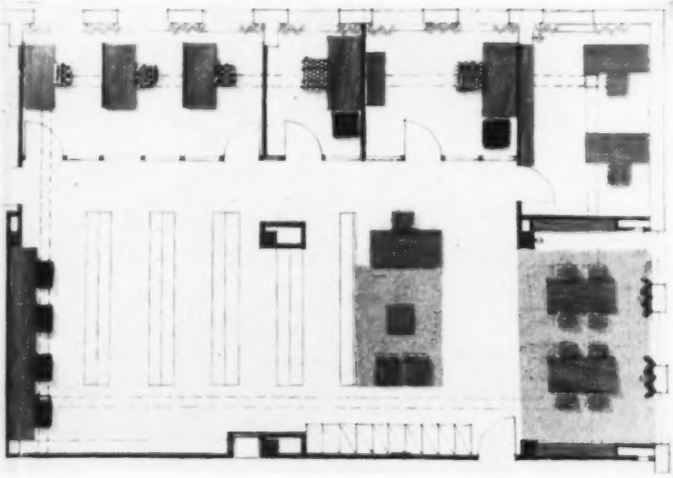
In both the administrative and conference areas, the two problems of economy and "unknown" degree of flexibility were met by the use of strong color, the selection of adaptable furniture, and the specification of long wearing finishes and fabrics. Color is used to create two effects: first, to enliven spaces and make them attractive and friendly; second, and more important, to keep a given area intact when the space within is disrupted. In order to hold each area together, one strong color is applied to one or possibly two walls while the remainder of the space is kept neutral or natural in tone.

Furniture throughout can be moved about easily into large or small groups for flexibility. Color selection of furniture coverings is such that in the moving of furniture from one room to another, color schemes never clash. The variety in color provides an overall continuity throughout all of the offices and lounges, and at the same time keeps areas alive with its ever changing combinations. In the larger lounges, a few purposely heavy pieces are selected to maintain the basic room scheme. Because of the heavy duty demanded, all surfaces are made of practical materials. Table tops are of stain- and burn-resistant plastic laminates in black, white or wood grain, or of marble; fabrics are selected for easy maintenance and long wearing qualities. In the administrative areas, space is at a premium and scale is of great importance. Because of the changing quality of the functions within each office, furniture was chosen for adaptability. In many offices, furniture is arranged so that the office can also be used as a meeting room. Privacy for two persons within a small office is created by free standing book-case partitions.



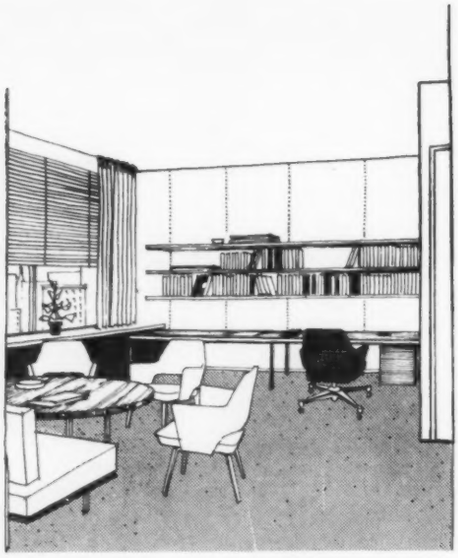


Joseph W. Molitor



Three photos and plan show library areas, in which typical walls are off-white, accent walls yellow, curtains yellow on white, chairs blue-green. Research study units, above, are defined by pandanus cloth covered panels on black painted channels; vermillion chairs add interest. Student work space, below, features birch light baffle and long desk where several may study

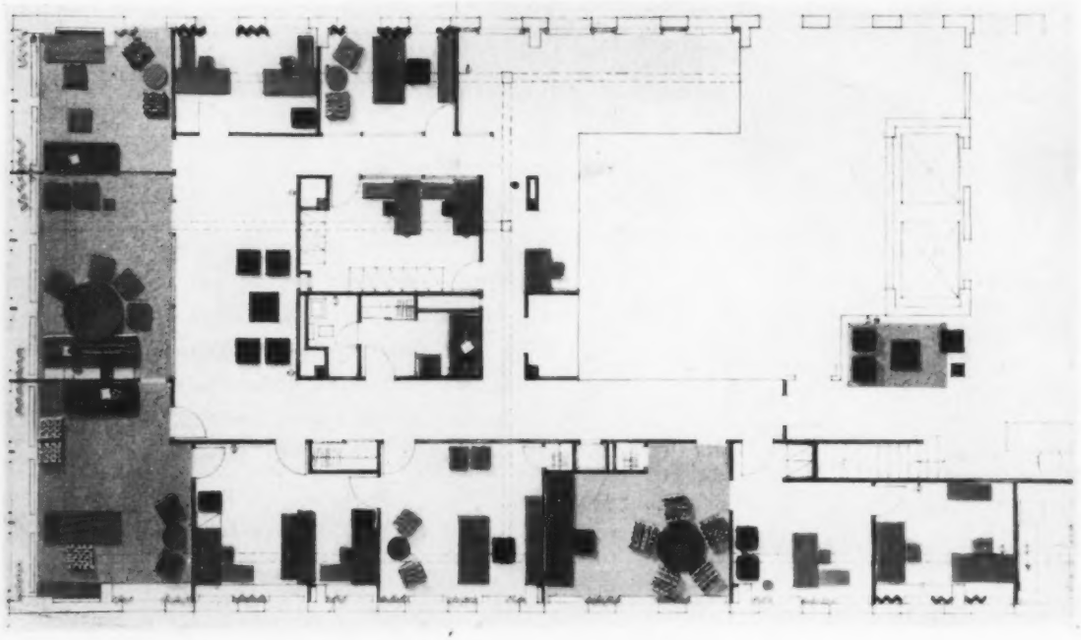




THE CARNEGIE INTERNATIONAL CENTER

ARCHITECTURAL INTERIORS

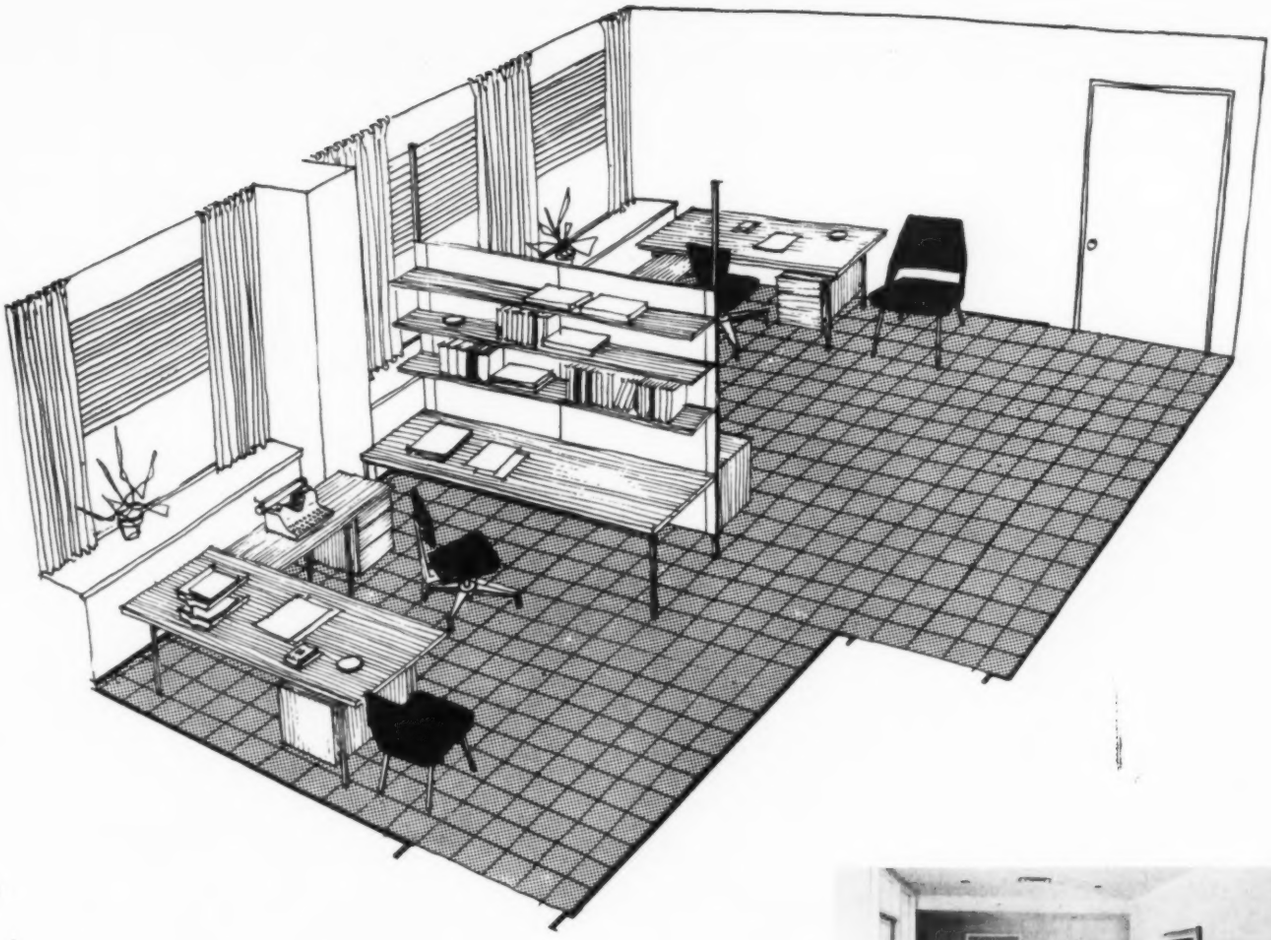
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Top sketch shows office which provides a conference area. Typical floor plans were arranged for specific needs. Left, typical two secretary office





Multiple use office shown at top; adjustable shelves on painted wood panels secured to steel channels. Photos show director's office and adjoining reception area created by widening corridor



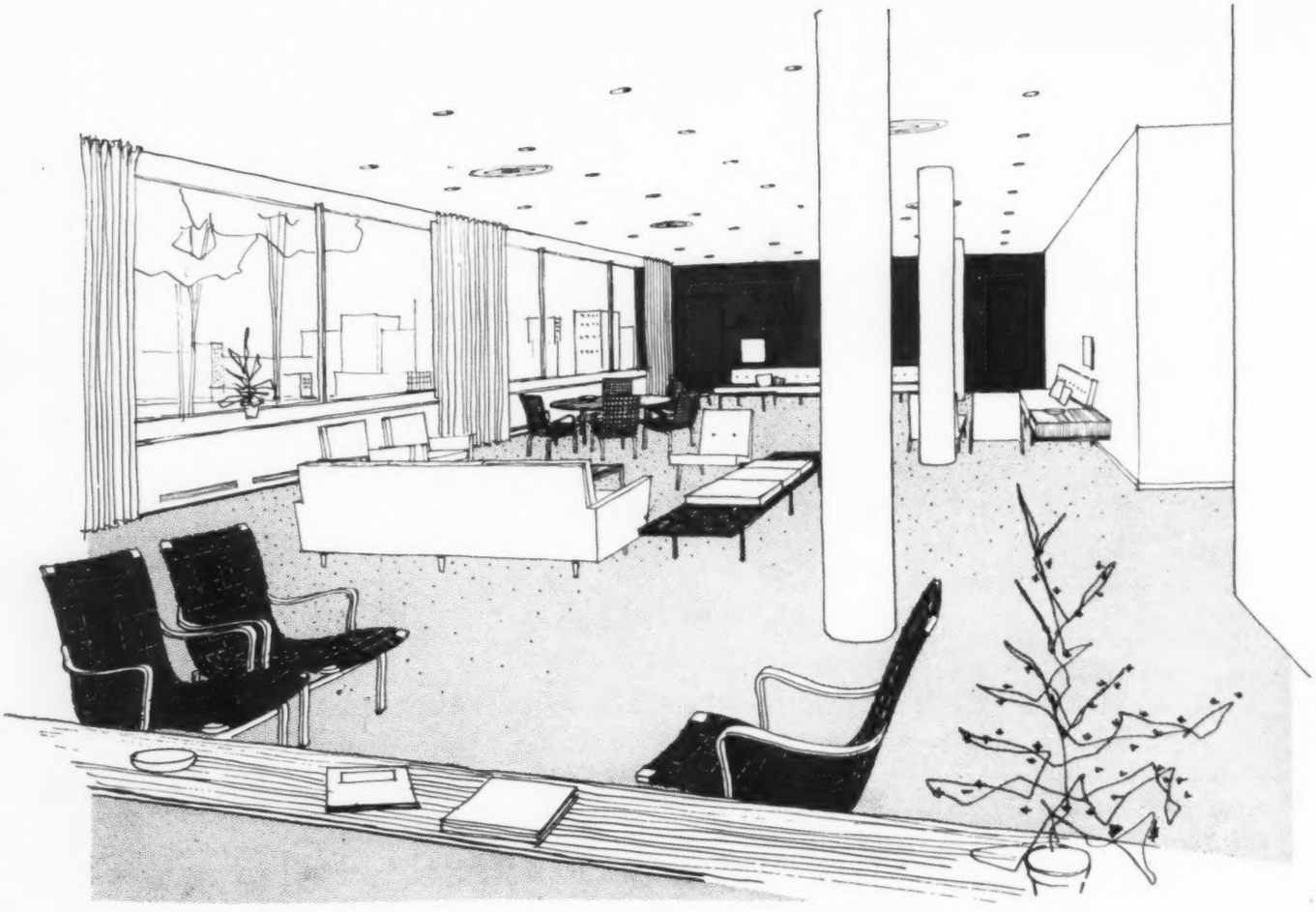
THE CARNEGIE INTERNATIONAL CENTER

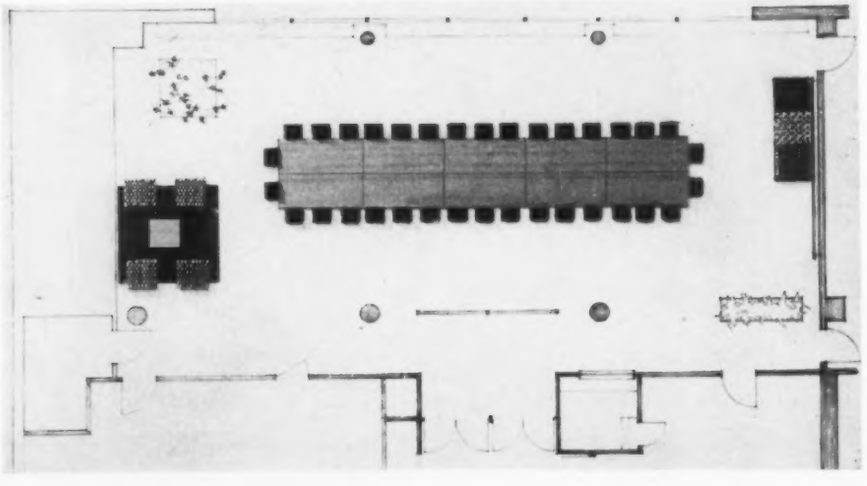
ARCHITECTURAL INTERIORS

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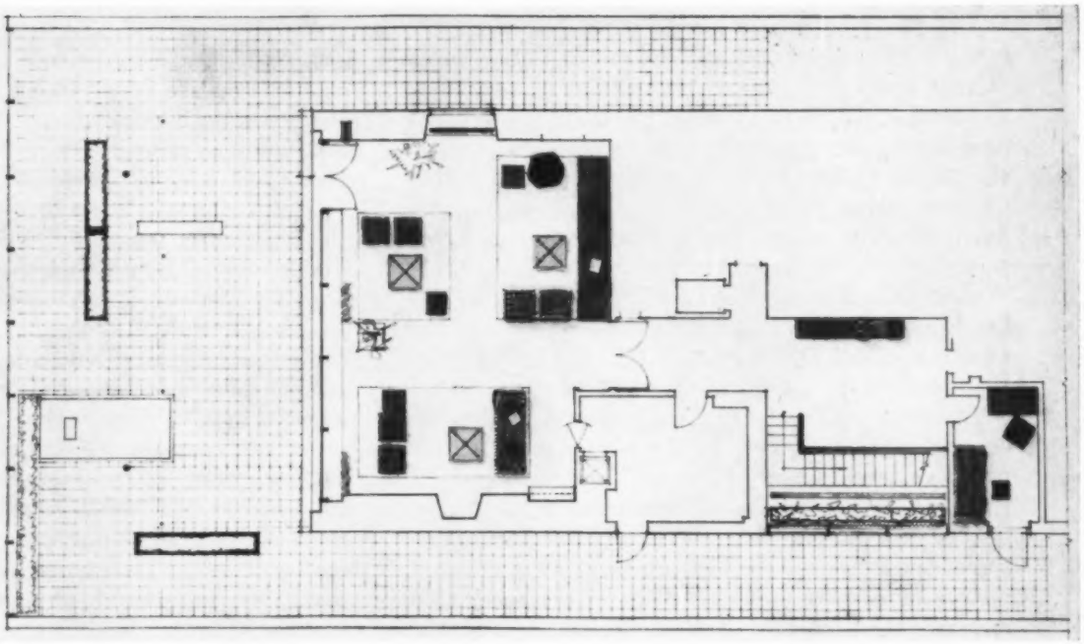


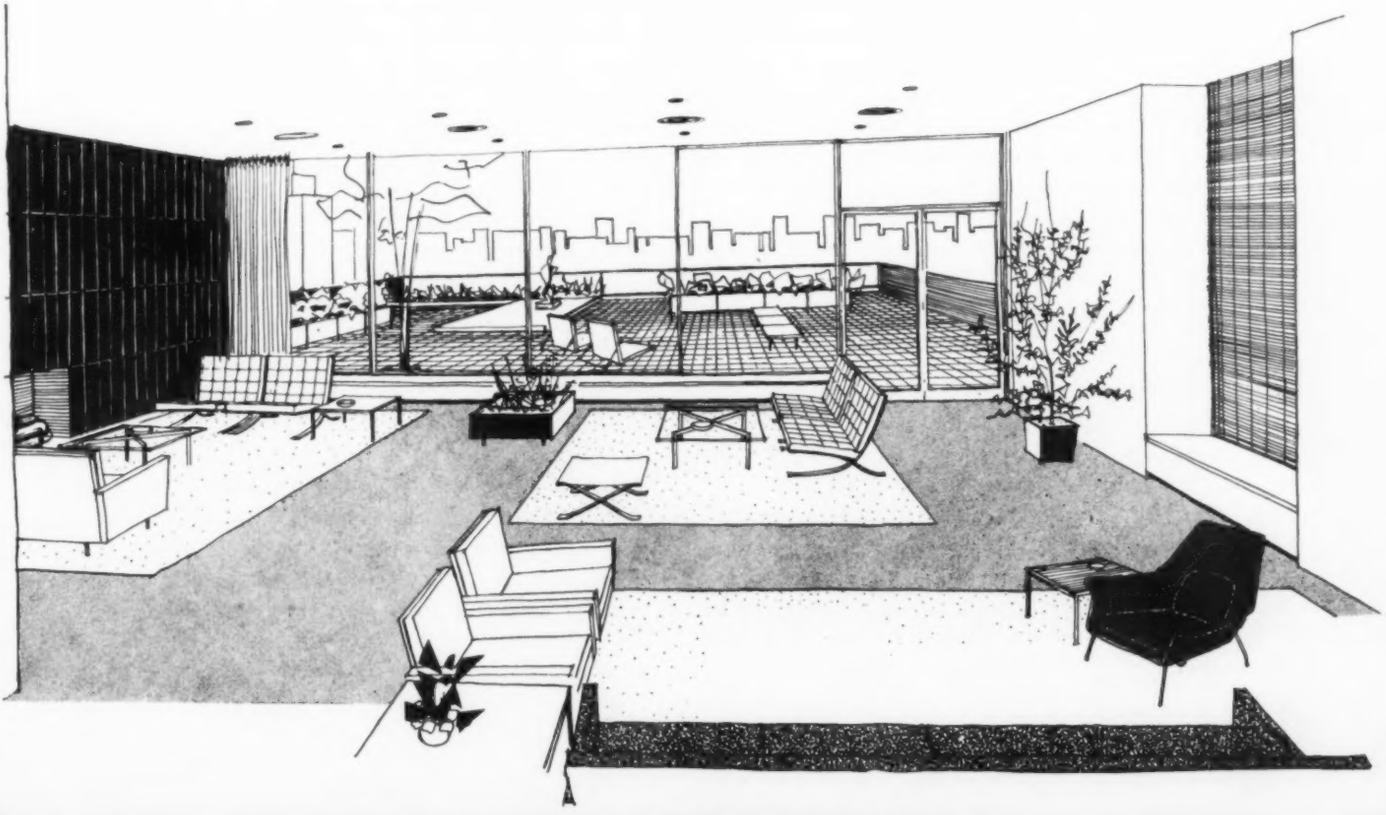
A heavy, natural, textured curtain material minimizes window columns in second floor lounge and exhibit area, illustrated on this page. Color scheme: sand carpet; gray or pandanus walls with vermillion end wall; black or black and white on furniture; accents of yellow chrome, blue ultramarine and vermillion



Joseph W. Molitor

In the penthouse lounge, this page, use of material and color is important. Floor is speckled white glazed brick; walls are white plaster, natural cherry or ebonized wood in unbroken rectangles; stainless steel furniture with natural leather or hemp and white wool upholstery; golden yellow curtains; orange, yellow and black cushions





THE STATE OF CONTEMPORARY ARCHITECTURE

BY SIGFRIED GIEDION

I. | THE REGIONAL APPROACH

The state of contemporary architecture today is such that a historian is compelled to refer back to points that, one could have thought, had been made abundantly clear many years ago. But during recent years the origins of contemporary architecture, and indeed its very nature, have again become clouded and confused. No single country, no single movement, no single personality can be claimed to explain the coming about of contemporary architecture. Trends shuttle to and fro, from one country, one movement, one personality to another, and become woven into a subtle pattern that portrays the emotional expression of the period.

There is a word that we refrain from using to describe contemporary art. This is the word "style." In a primitive sense the word "stylus" was used even in Roman times to describe different manners of writing, but "style" did not come into general use to describe specific periods until the 19th century, when different periods of architecture were analyzed according to a materialistic description of details of form. Today, the moment we fence architecture in within a notion of "style" we open the door to a purely formalistic approach. Purely formalist comparisons have about the same effect on the history of art as a bulldozer upon a flower garden. Everything becomes flattened into nothingness, and the underlying roots are destroyed.

The architect of today regards himself not merely as the builder of an edifice, but also as a builder of contemporary life. In other words the architect of today refuses to consider himself a mere *confiseur* (pastry-cook) employed to attach some trimmings within and without after the structure has been delivered to him by the engineer. No, the architect has himself to conceive it as an integrated whole. Like all real artists, he has to realize in advance the main emotional needs of his fellow citizens, long before they themselves are aware of them. A wholeness, a togetherness of approach, has become a "must" for any creative spirit.

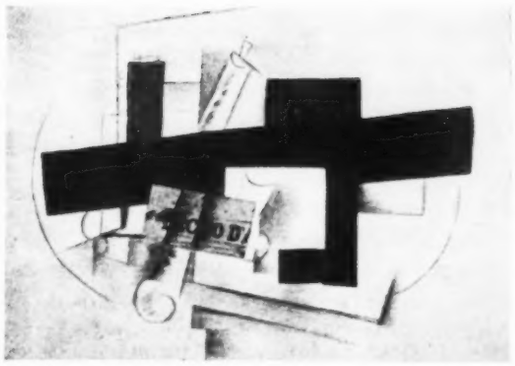
All this is involved in the reason why we today abstain from labelling the contemporary movement with the word "style." It is no "style" in the 19th century meaning of form characterization. It is an approach to the life that slumbers unconsciously within our contemporaries.

It seems — and this cannot be too often repeated — that all creative efforts in contemporary art have, as their common denominator, a new conception of space; and this is so no matter how different the movements themselves may appear from one another. This new representation of space contrasts fundamentally with the Renaissance perspective and the consequences that developed from its single focal point.

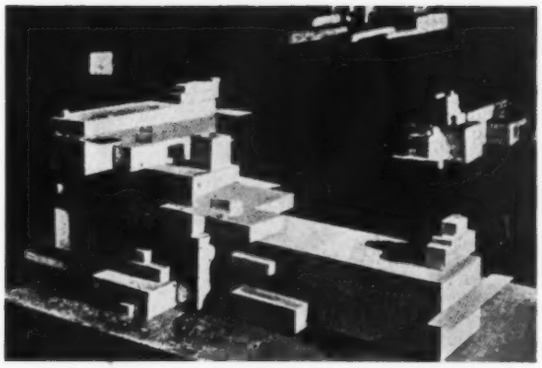
It has been stated over and over again — indeed I have said it myself — that it is the plane, which earlier had lacked any emotional content, that has become the constituent element of our new representation. Furthermore there is no doubt that the use of the plane as a means of expression was evolved from cubism between 1910 and 1914. On two pages of *Space, Time & Architecture* (page 362–363) I tried to show how the same spirit emerged in several different countries, by presenting a visual comparison of a collage by Braque (fig. 1), a painting by Mondrian (fig. 3), an architectural study by Malewich (fig. 2), a country house by van Doesburg and van Eesteren, and Gropius' Bauhaus.

The art magazines have recently been stressing that "the right angle and primary colors used with black, white and gray, disposed in an asymmetrical arrangement" were the basic elements of "de Stijl." This factual analysis is perfectly correct as far as it goes, but it does not touch the reason behind the use of these simple elements — the essential heart of the matter which "de Stijl" shared in common with the whole contemporary movement. This was the *introduction of the plane* as a constituent element to express the new anti-renaissance space conception. The right angle, the vertical, and — to a certain extent — the primary colors are by-products and not essential features of the modern conception.

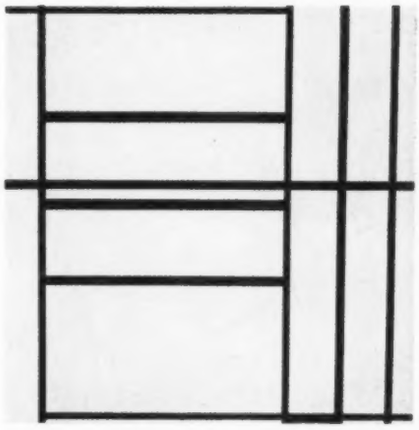
It is well known that the "de Stijl" people around van Doesburg never formed themselves into a formal group, as for example the Futurists did. "De Stijl" consisted of various individualists working in different places. There was sometimes a certain amount of collaboration, as at one time between Doesburg and Oud, and, in the twenties, between Doesburg, the young van Eesteren and Rietveld. But on the whole they remained individualists. J. J. P. Oud (whose early accomplish-



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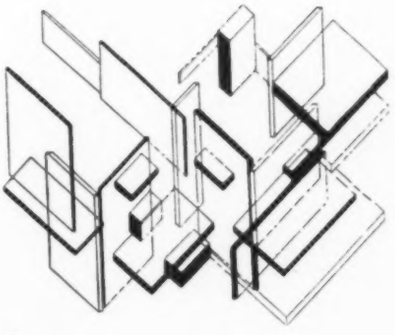
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". . . It is the plane, which earlier had lacked any emotional content, that has become the constituent element of our new representation." The author cites a collage by Braque (1), a study by Malevich (2), a painting by Mondrian (3), also the work of van Doesburg and van Eesteren (4), and Gropius' Bauhaus as important examples of the use of the plane

Giedion does not explain Mondrian's paintings as representations of Holland's tulip fields, but he does maintain that "the organized plane surface is in no other country so prevalent" as in Holland, as witness the early painting of a Dutch interior by Pieter de Hooch (5) and a tulip field (6) — or a hyacinth field as actually shown



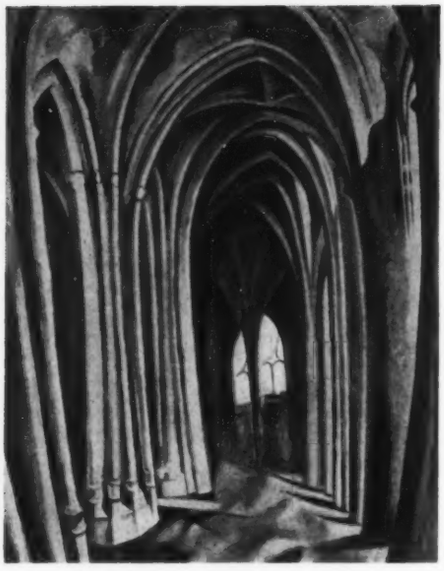
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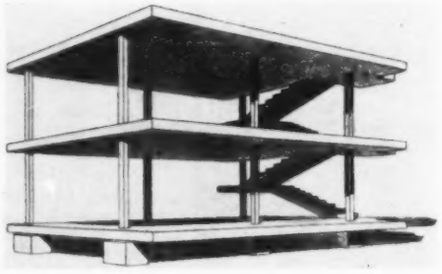
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France's contributions to the chain come from another source — a great eagerness to experiment with new forms of structure, as witness the Halle des Machines or the Eiffel Tower. ". . . here it is interesting to note that the painter Delaunay (a representative of the so-called 'orphic cubism') was first inspired by Gothic churches." (*S. Severin 1909, fig. 7.*) *Le Corbusier's first sketches of the ferroconcrete skeleton for the House Domino was also "revealing" in this respect* (*8*)

ments will always form part of the history of architecture) is typical of these individualists. When I met him for the first time in 1926 he even then emphasized "I was never a member of 'de Stijl.'" And, in his own way, Piet Mondrian (who called his work "neo-plasticism") expressed a similar standpoint. It was indeed just this free cooperation of strong individualists, often in dissension with one another, that gave the Dutch movement its undeniable mental strength.

The word "style" when used for contemporary architecture is often combined with another password label. This is the epithet "international." It is quite true that for a short period in the twenties the term "international" was used, especially in Germany, as a kind of protest to differentiate contemporary architecture from "Blut and Boden" advocates who were trying to strangle at birth anything and everything imbued with a contemporary spirit. But the use of the word "international" quickly became harmful and constantly shot back like a boomerang. "International" architecture — "the international style" — so went the argument, is something that hovers in mid-air, with no roots anywhere.

All contemporary architecture worthy of the name is constantly seeking to interpret a way of life that expresses our period. If history teaches us anything it is that man has had to pass through different spiritual phases of development, just as, in prehistoric times, he had to pass through different physical stages. There are some signs that go to show that a certain cultural standard is now slowly encompassing the entire world. In historic periods cultural areas have usually been more limited in extent, but in the prehistoric era — the hundreds of thousands of years of dark ages — we find everywhere the hand axe, the *coup de poing*. This hand axe is a universal, triangular, pear-shaped tool whose



9



10 ***"In form these two houses, built by Richard S. Neutra and Oscar Niemeyer (9 and 10), have practically nothing in common, yet both are imbued with the same contemporary spirit. Formalistic analysis will not help us here"***

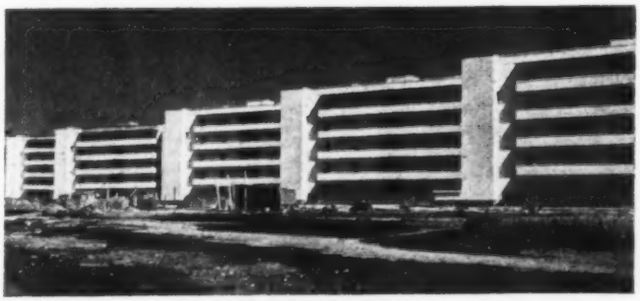
sides slope to a fine edge. It has been found in China, in Africa, in the gravel bed of the Somme in the heart of France, in the Ohio valley. Everywhere this flint implement was shaped the same, as though the wide-flung continents had been neighboring villages.

The way of life that is now in formation is a product of the mentality of Western man. Again, as in the time of Neanderthal man, it passes round the whole world, only now the tempo is vastly accelerated and the speed has become excessive.

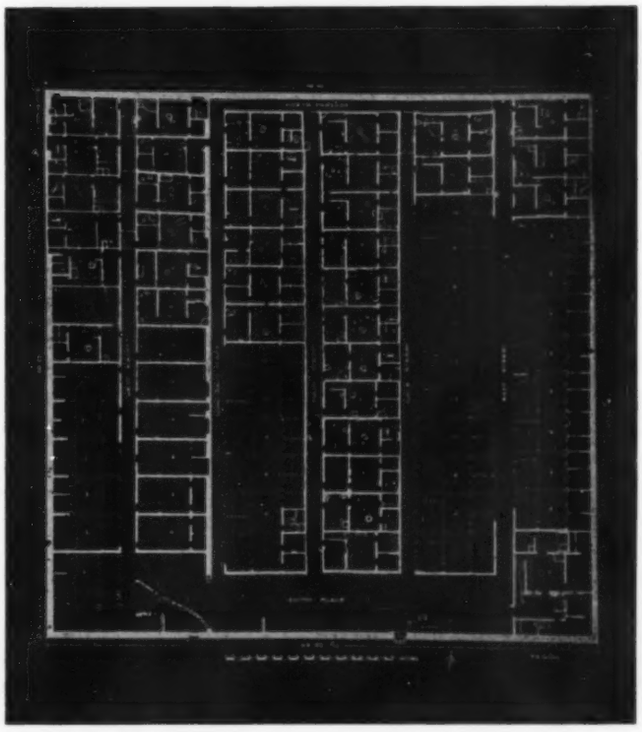
When I had recently to write a short foreword for a Japanese edition of *Space, Time & Architecture* I somehow felt it my duty to explain that Western man has now, very slowly, become aware of the harm he has inflicted by his interference with the way of life of other civilizations: whether it has been interference with the natural rhythms of the lives of primitive peoples, which have been the root cause of their bodily and mental persistence since prehistoric times; or whether it has been an injection of the rational Western mentality into the oldest existing civilizations, without also presenting any worthy antidote. But, even while writing this, I was obliged to add that Western civilization is itself actually in a stage of transition. Experience is slowly showing us that the rationalist and exclusively materialist attitude, upon which the latest phase of Western civilization has been grounded, is insufficient. Full realization of this fact can lead us slowly towards a new hybrid development — a cross between Western and Eastern.

Now that we no longer adhere to a creed of production for production's sake, the civilization that is now in the making draws closer to the mental outlook that is shared by primitive man and Eastern man. We in the West are again becoming conscious of something that they never forgot: that the continuity of human experience always exists alongside and in contrast to our day-to-day existence.

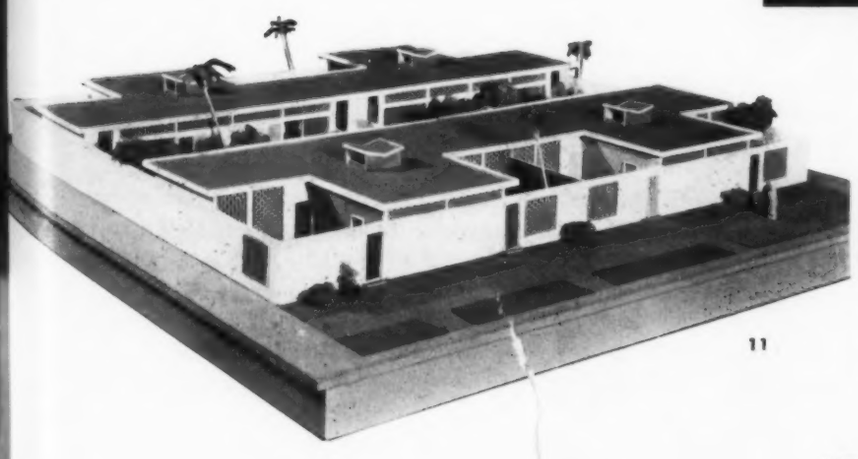
This may serve to strengthen a realization that the image of this emerging civilization, especially our particular interest — the form of contemporary architecture — cannot be described by so drained and bloodless a term as an "International Style." Moreover the term itself is a complete misnomer, as is the case with many other "styles." It is well known for instance that the term "Gothic Style" when used in the 18th century designated a form of barbarism. It was only after the English had rediscovered the Gothic that it became used



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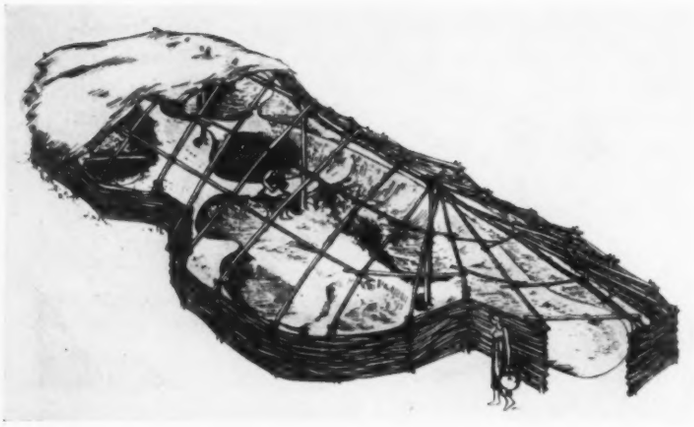


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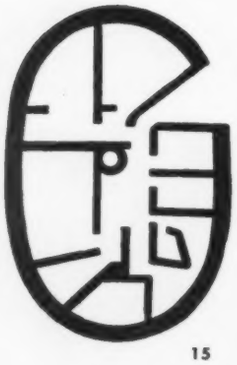


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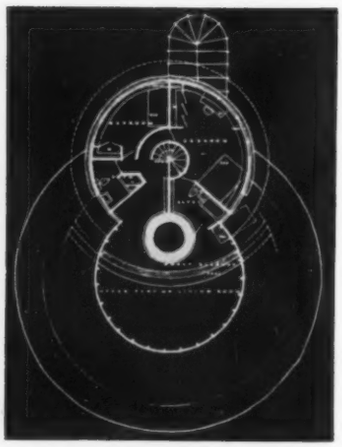
The "New Regional Approach." The best contemporary architects, when they have to solve a problem of building in underdeveloped areas, "strive to translate the continuity of long-established habits of life into terms of contemporary architecture." Fig. 12 shows an interesting experiment by the French Government in Morocco, recognizing habit in certain things, but still housing some groups already accustomed to city life in multistory buildings. For other groups they still use wall-enclosed row units, as in the ancient village of Tel-el-Amarna (plan in fig. 13). The walled enclosure was continued by Sert & Wiener in housing for Cuban workers (model, fig. 11)



14



15



16

17



Giedion finds significance in recent departures from rectilinear house forms in the work of Frank Lloyd Wright, comparing here the plan of one Wright house (fig. 16) with the rendering of reconstructed Kurvenkomplexhutte in Koln-Lindenthal (14) and a diagram and photograph of excavations of ruins, all curvilinear as in "the first emergence of primeval architecture"

as a term of adoration. "Baroque" also was first used to describe something over-extravagant, irregular or undisciplined. But all such labels were only applied by later generations. The architects of the Gothic or Baroque periods gave no stylistic names to their buildings. They just built, as they had to build, in a contemporary manner — and so do we! So let us drop, once and for all, such misleading formalist designations.

It is true that our period, just like past periods, has a common mental outlook and a commonly recognized method of expressing its emotional content. As the outlook changes, our attitude towards our environment — the region or country in which our structures are rising — also changes. Contemporary architecture and painting are embraced by a pervading mentality — the spirit of this period. But from out the innumerable possibilities of each region, each period selects just those which correspond with, or help to express, its own specific emotional needs. Now that we are separated by several decades from the birth period of the early twenties, we are able to discern that certain regional habits and regional traditions lay concealed within the germinal nuclei of the various contemporary movements.

Two examples, one from Holland, the other from France, may serve to make this point clear. First, Holland. When we look at a painting by Mondrian or at one of van Doesburg's architectural schemes their abstract forms (Mondrian called them "neutral forms") seem very far removed from any specific regional influence. They seem so, but they are not.

At the Congress of Art Critics in Amsterdam in 1951, for which the "de Stijl" exhibition was first assembled, I was asked to speak on this movement. Rietveld, who was in the audience, sprang to his feet and sharply protested when I tried to show the inner ties that exist between Dutch tradition and these so-called "neutral forms": how, in fact, these forms are rooted in the Dutch region and in the Dutch mentality.

In the 17th century — the great age of Dutch painting — and perhaps even later, no other people laid such stress on the plane surfaces of interior walls, or of the careful organization of the position of doors and windows (Pieter de Hooch, fig. 5). Similarly one can note today the careful manner in which the Dutch gardener lays out his fields of red, white and yellow tulips (fig. 6). Certainly I would never wish this to be interpreted as though I were explaining Mondrian's paintings as reproductions of tulip fields! But I do maintain that the organized plane surface is in no other country so prevalent as here, in the region of the Polders. It is not mere chance that neither the Russians, nor the Germans, nor the French, made such use of the plane surface, framing it and extracting it from innumerable details. The plane surface, for reasons which do not need to be reiterated, is a constituent element of contemporary art: and it seems to me that van Doesburg and van Eesteren's simple drawings of the transparent interior of one of their projected houses (1922–23, fig. 4) is one of the most elucidating achievements of "de Stijl," and one

which helped enormously to clarify the mind of their contemporaries in other countries.

France's contribution comes from another source. Ever since her daring experiments in Gothic cathedrals, France has shown a great facility and a great eagerness to experiment with new forms of structure. We have only to recall the Halle des Machines or the Eiffel Tower of 1889; and here it is interesting to note that the painter Delaunay (a representative of the so-called "orphic cubism") was first inspired by Gothic churches (S. Severin, 1909, fig. 7) and later by the structure of the Eiffel Tower whose poetic content was first revealed by him and the poet Guillaume Appollinaire.

France's early and extensive use of ferroconcrete as a means of architectural conception is only one more link in the same chain. Already around 1900 Tony Garnier, in his Prix de Rome project, used the new construction method of ferroconcrete in his Cité Industrielle for all kinds of buildings. Perret soon followed with his Paris houses, garages, theaters; and one of Le Corbusier's first sketches of the ferroconcrete skeleton construction for the House Domino (1915) is as revealing as van Doesburg's sketch with its intersecting planes (figs. 8 and 4).

These are but two examples of regional contributions to a universal architectural conception. But one thing more: it has not been necessary for the architect to be a native of the country in which he is working in order to be able to express its specific conditions. We all know how Frank Lloyd Wright's Imperial Hotel in Tokyo withstood the earthquake better than Japanese structures. The reason is that the modern approach encompasses both cosmic and terrestrial considerations. It deals with eternal facts. It has been mentioned already that the aspect of the new structures may look very different from the traditional appearance of the buildings of a certain region. There is also a great apparent difference between a wide open redwood or ferroconcrete house built in the kindly homogenous climate of California and a weekend house built for the tropical conditions of Brazil (figs. 9 and 10). In form these two houses, built by Richard S. Neutra and Oscar Niemeyer, have practically nothing in common, yet both are imbued with the same contemporary spirit. Formalistic analysis will not help us here.

I would like to give a name to the method of approach employed by the best contemporary architects when they have to solve a specific regional problem — such as a building for the tropics or the West Coast, for India or for South America — whether it is for a house, a government center or a problem in urbanism. This name is the *New Regional Approach.*

I am thinking of some walk-up apartments built in Morocco by Candilis and Woods for a very poor population who now live, as in Brazil and other tropical climates, in "bidon-villes" or tin shacks made from old gasoline cans. In this case the problem was the erection of several thousand dwellings very rapidly, very cheaply and employing only the simplest techniques. Each dwelling has two bedrooms that open onto a patio living room surrounded by a six ft wall that insures privacy for the family. Great care is taken to see that every corner of the dwelling is at some time penetrated by the bacteria-destroying beams of the sun. Fig. 11 shows some row houses built in Cuba by Wiener and Sert for the better paid workers. No glass is used but instead a modern version of the lattice-like openings common around the Caribbean. Each dwelling has two bedrooms and a living room that is wide open to a private patio. The neighborhood unit model for 8000 inhabitants shows how these simple units can be variously grouped.

Examples such as these imply that the modern architect should not strive to produce an external appearance in conformity with traditional buildings. Sometimes the new buildings will conform to a certain extent, sometimes they will be basically different. This difference may be due to two reasons: sometimes it will be because of new production methods and the use of new materials; sometimes, more importantly, it will be caused by the new aesthetic, the new emotional expression, that the builder is giving to the habitat of man.

The regional approach that satisfies both cosmic and terrestrial conditions is a developing trend, but there is also another symptom that is emerging, and that hints at the many-sided face of contemporary architecture. In contemporary painting many problems come forward which can also be discerned in the earliest beginnings of art. Architecture is different from painting; it is not so intimately related to man's direct projection of what flows in the subconscious mind. Yet we cannot leave unnoticed a certain symptom which has been appearing in architecture, above all in the recent work of Frank Lloyd Wright (especially since 1940). We can now follow the exciting path that the human mind had to travel before he came to standardize (if we may call it this) upon the rectangular house with its square or rectangular rooms. We are all born with this rectangular house and are so accustomed to live with it that it seems it could never have been otherwise. Yet it is important that an artist like Frank Lloyd Wright is plunging so deeply into problems that concerned the human spirit at a time when mankind was contemplating the transition from the nomadic herdsman to the settled agriculturalist.

At the very beginning of architecture the paramount type was not the square house, but the curvilinear house — sometimes round, sometimes oval, sometimes freely curving. Now it tries to make a re-appearance. Sometimes this is dictated by mechanistic reasons: such as the mast house of Buckminster Fuller, or the use of a central mechanical core. But Wright follows exclusively the line of his artistic vision, maybe adapted to the site, maybe adapted to the man who is to inhabit the house, maybe under the compulsion of expressing that which slumbers in himself. It is not my intention to discuss the pros and cons of this kind of contemporary architecture, but it seems a duty not to ignore it. What we need more today than anything else is *imagination*, but this subject must wait for a later article.

Residence of Mr. and Mrs. Norton Polivnick
Denver, Colorado

Norton Polivnick, Architect

Gerald F. Kessler, Landscape Architect



Marshall Brooks



VERTICAL EXPANSION PROVES ADVANTAGEOUS



THIS HOUSE was originally designed for a family of three, with provision for guests and probable family expansion; the requirements were flexible, but the budget was not. The architect-owner based his plan on maximum use of every inch of space: the living-dining room, for instance, could be used also as a drafting room, guest room or music center; kitchen, laundry and both bedrooms were held to moderate size, and as much furniture as possible would be built in. When more room was needed, extension of the bedroom wing would be simple and economical.

Before the time for expansion had come, however, a new and large house had been built close by on the adjoining lot. The Polivnick house, with its extremely low roofline (ceiling height, 7 ft 4 in.), was lost among its neighbors, and additional height was badly needed to restore the balance. Expansion would have to be vertical, not horizontal as anticipated.

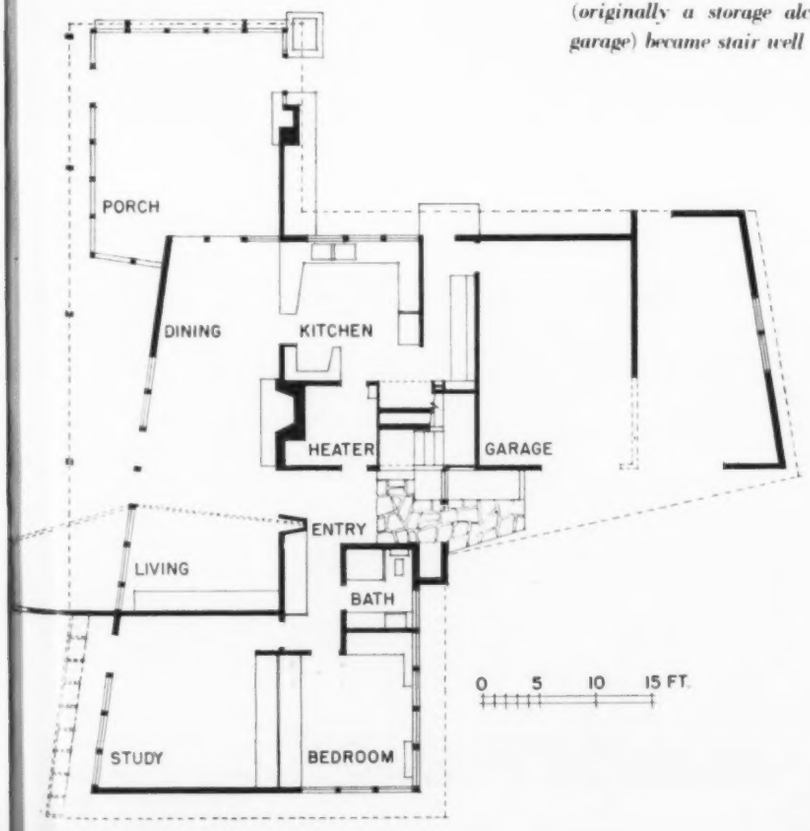


Original house was dwarfed by new neighbors; addition of second floor restored balance. Exterior walls are cedar predipped shakes and vertical T & G siding

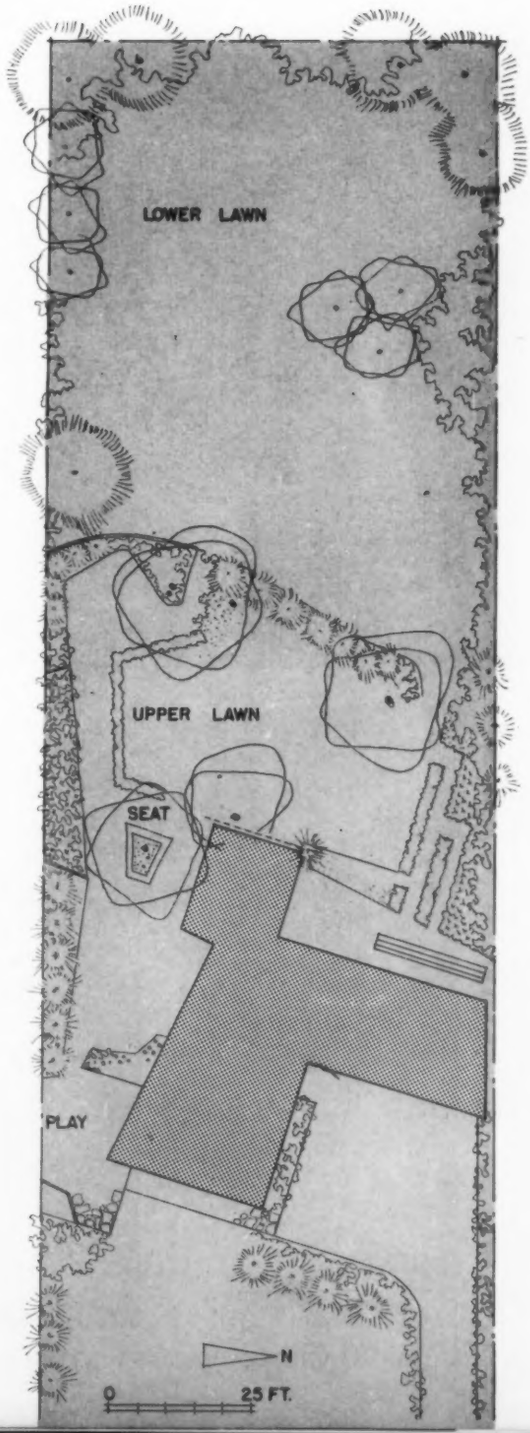


SECOND FLOOR

Lot is 300 ft deep, only 82½ ft wide, with mountain view to southwest. Angled placement of house permits terrace facing view and greatly increases privacy of outdoor living areas. Although horizontal rather than vertical expansion was intended when house was planned, ground-floor changes were minor. To make room for stairs, entrance hall was enlarged by moving door from inner edge of flagstones to present position, and space between heater room and garage (originally a storage alcove in garage) became stair well

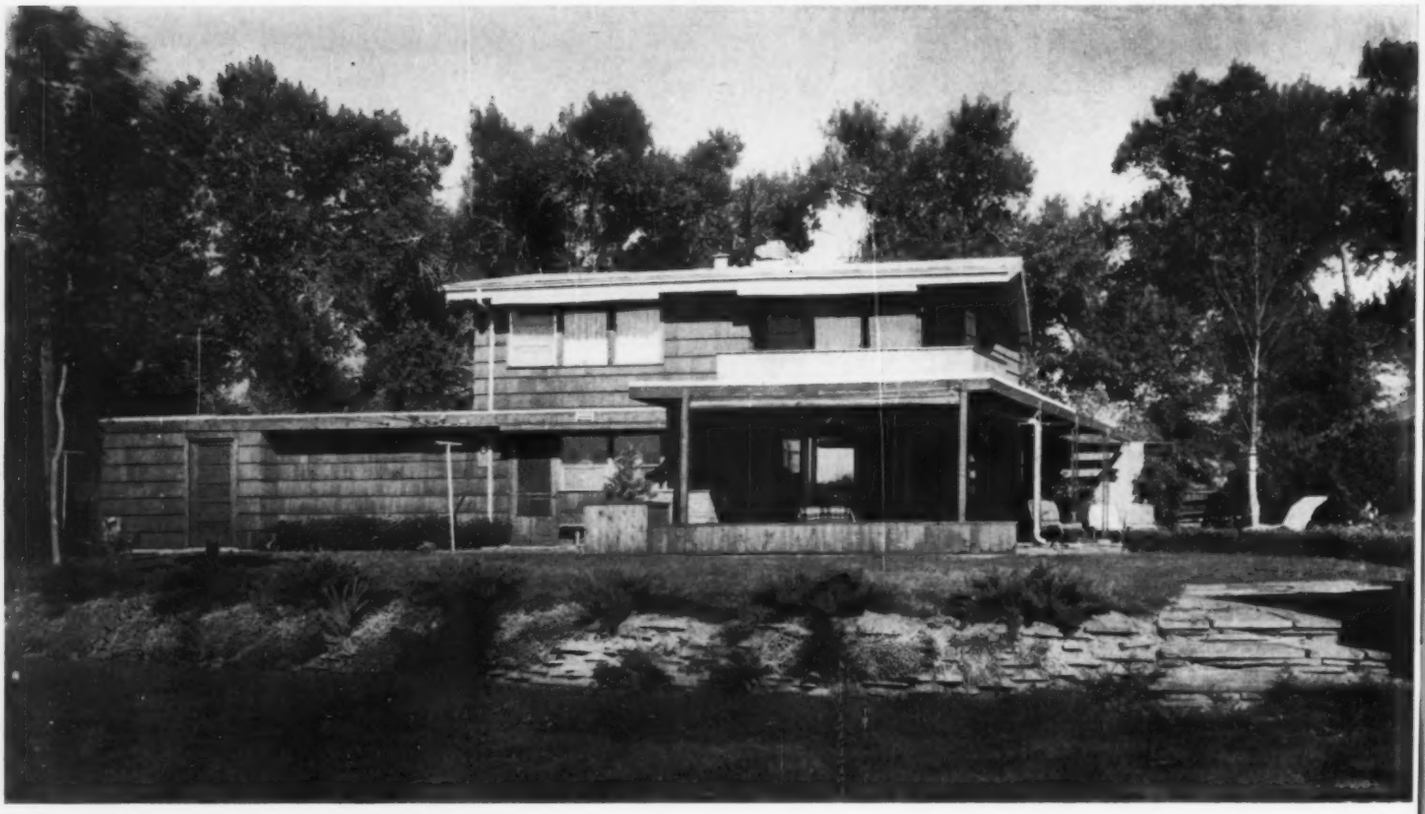


GROUND FLOOR



VERTICAL EXPANSION PROVES ADVANTAGEOUS

As things turned out, a second story proved to be not only possible but actually advantageous. The original plumbing stack, hot water boiler and chimney could serve the new second floor; the existing roof became the sub-floor of the addition; and all new bearing walls were related to existing exterior walls. Whereas the cost of the original house had been $15 per sq ft, the cost of the 900-ft addition was about $7 per sq ft.



Photos this page Marshall Brooks

When second floor was added dining room terrace was converted into a screened porch. Roof overhang along living room (below) previously had been extended to its present width with trellises and columns (top left, opposite page)





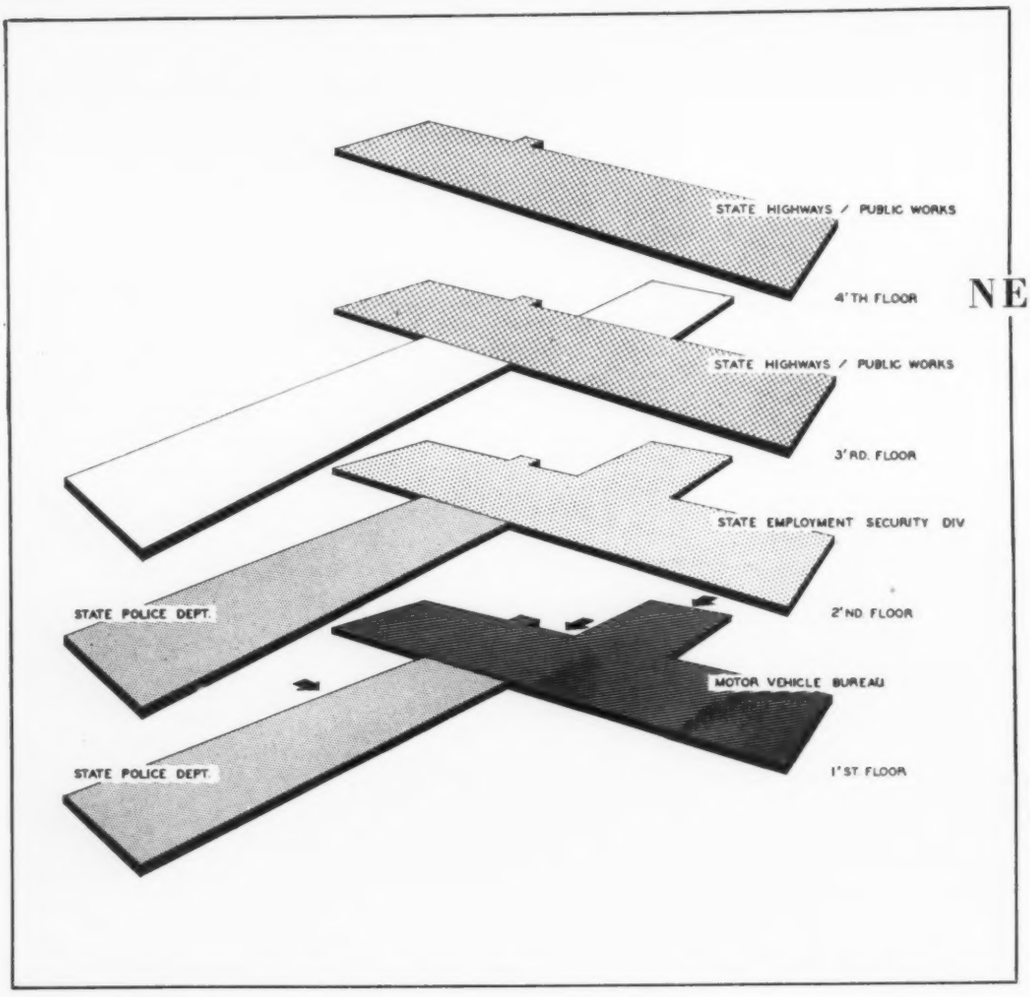


Barbecue fireplace is now within area of screened porch; it is only a few steps from kitchen. All interior walls on first floor are knotty cedar vertical T & G, cabinet work is fir plywood, floors are concrete with asphalt tile finish, ceilings are plaster tinted an off-white to blend with natural finish of wood. On second floor, all finish is mahogany, floors are hardwood (carpeted), and ceilings are painted gypsum board

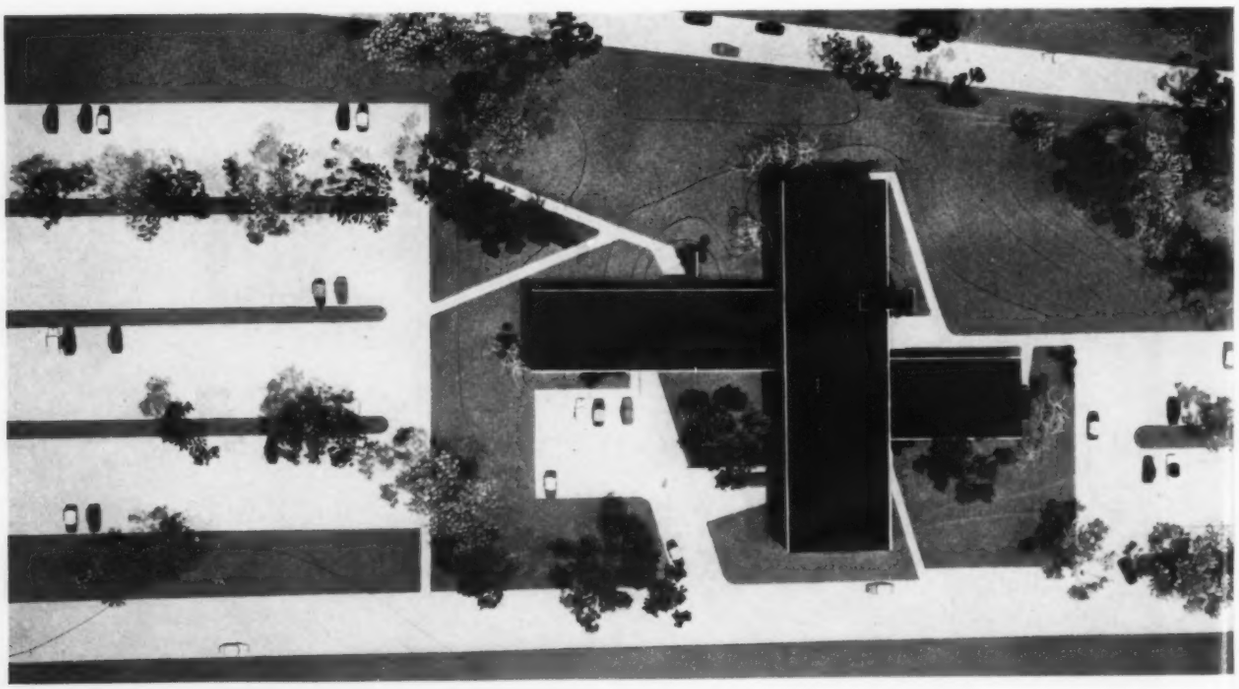


Photos this page, Hedrich-Blessing

NEW HAMPSHIRE



Interrelation of plan elements shown by diagram: Police Department, open all night, is housed in a separate wing



STATE OFFICE BUILDING SOON TO BE CONSTRUCTED

Nichols & Butterfield, Architects

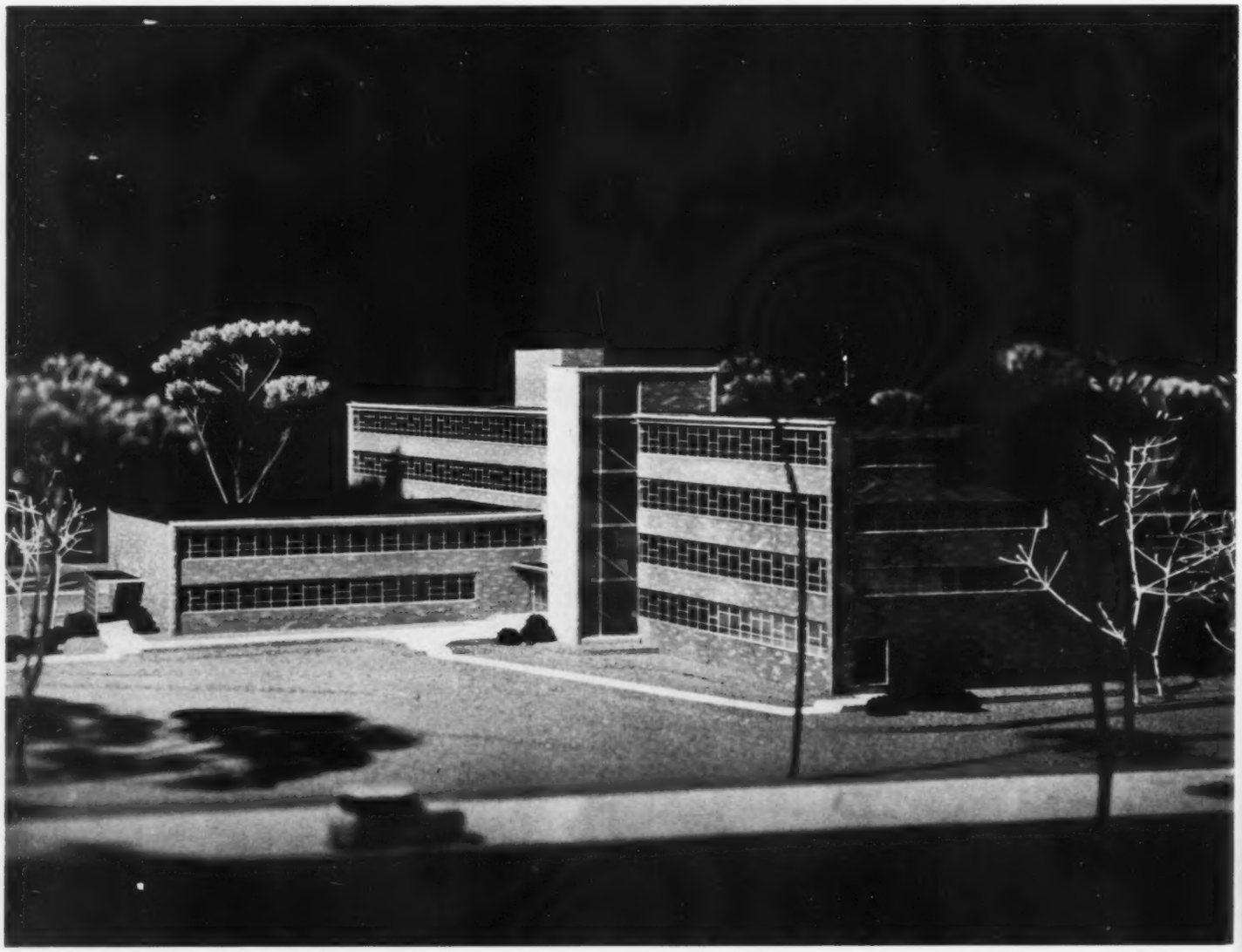
James F. Russell & Bruce Graham, Associates



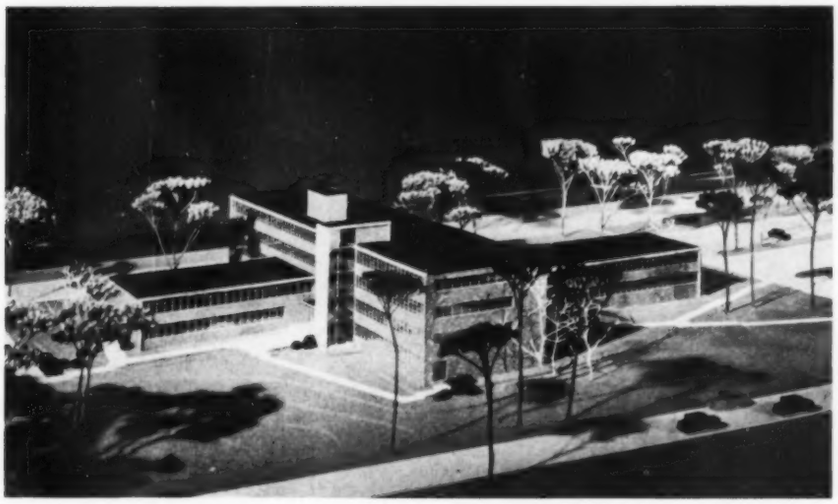
Joseph W. Molitor

NEW HAMPSHIRE's newest office building will be built on a main highway near Concord and will be visible to motorists traveling north to the White Mountains ski and vacation areas. The building will house the State Police Department, Motor Vehicle Bureau, Employment Security Division, and Public Works and State Highway Departments. The design was placed first in a 1950 competition open to architects registered in New Hampshire and was chosen from 29 entries. The competition was decided upon in order that as many ideas as possible could be reviewed and also to procure the best possible design skill. The original appropriation, inadequate to carry out the scheme, is expected to be supplemented by the necessary additional funds this fall so construction can proceed at that time. According to estimates, the cost should run close to $15 per sq ft.





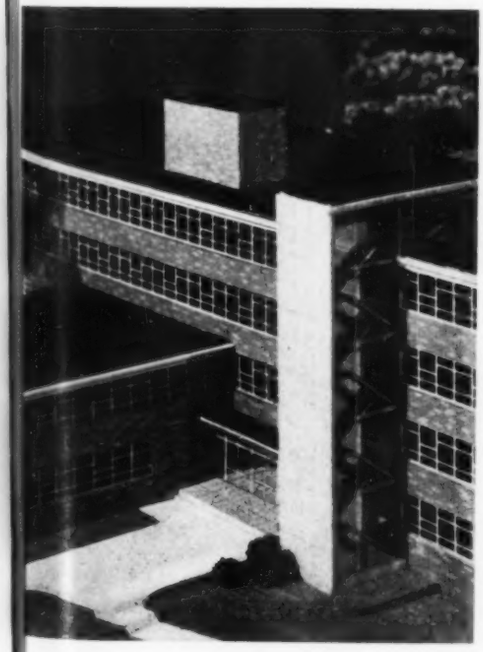
Rendering at top of page shows the design that won the competition in 1950. In later development, the architects were requested to add the Employment Security Division to the scheme, thus boosting the height of the central wing from three to four floors. The glass enclosed stair tower will be faced on one side with native gray granite; will be an exterior feature. The stair itself, of poured concrete, will receive its principal support from a central beam, thus making possible a 3-in. exposed edge next to the glass.



The building's orientation is such that its large central mass will be visible to northbound travelers on the adjacent highway



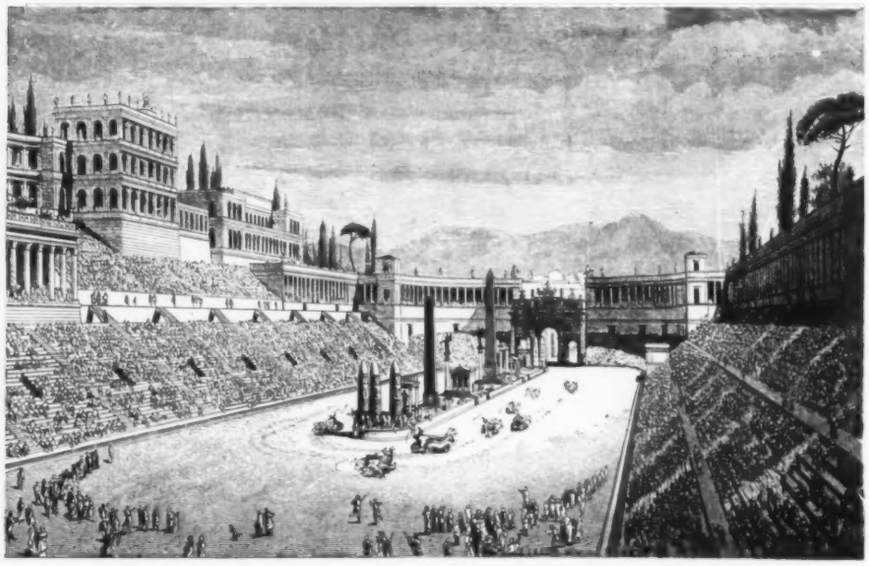
Joseph W. Molitor



A 3 ft 6 in. window module and 21 ft column spacing combined with a structural flat slab system will yield maximum use flexibility

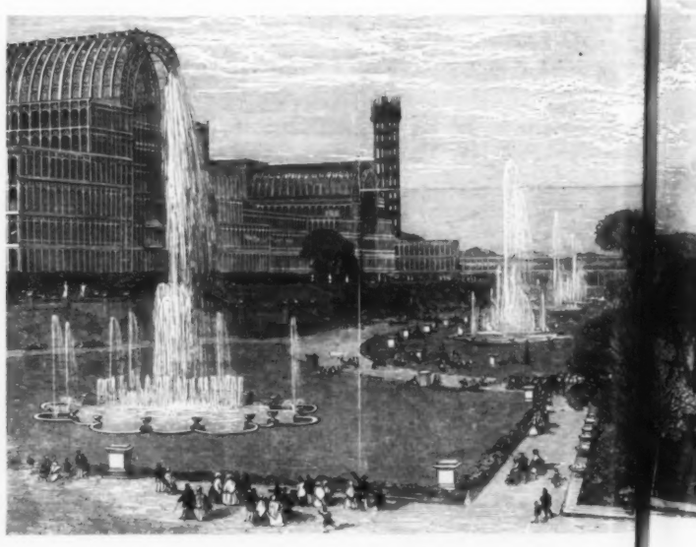


ARCHITECTURAL RECORD'S BUILDING TYPES STUDY NUMBER 206



Bettman Archive

SOCIAL AND RECREATIONAL BUILDINGS



Bettman Archive



Chester—Black Star

Top: Circus Maximus, Rome. Above: The Fountains at the Crystal Palace, London. Left: N. Y. World's Fair — fireworks over fountains in Lagoon of Nations. French Pavilion in background. Top right: Saint Louis Browns at bat. Right: Play Sculpture by Egon Moller — Nielsen of Sweden

Illustrations on these pages remind us that from the earliest times man has always made much of festive and recreational gatherings, has in fact built some of his greatest buildings for such purposes. The difference today is that he builds many more of them, and of seemingly infinite variety. Last year, with materials restrictions removed, he built a great many such buildings: this year, F. W. Dodge Corporation estimates, he will build 12 per cent more than last year. Significantly he builds now for participation, not merely for "spectator sports" — and for participation by all people, young or old, rich or poor, in cities, suburbs, everywhere. While recreational matters have been highly organized for fifty years, never has there been such a push for more facilities for more people. "Social and recreational buildings" now answer man's knottiest problems, from increasing leisure hours, to education, to juvenile delinquency, to old-age loneliness, even to insanity. If there is a fault, according to Burchard (below), it is that we tend to specialize too much, and perhaps that we don't include enough cultural pursuits along with our swimming and our baseball. There is a challenge that should have great appeal for architects — to design a wide variety of buildings, to please all manner of people, to ease the strains and facilitate the adjustments of life, to make the buildings functional and beautiful, and yes, not to forget a little pinch of culture.







G. E. Kidder Smith

Try Imagination; Don't Forget Diversion

By John E. Burchard *Dean of Humanities and Social Studies, Massachusetts Institute of Technology*

An age of specialization levies its tolls. Not the least of these is the insistence that specialism remain specialized. Thus the word "recreation" has come to have a limited meaning for most of us. Thus "recreational facilities" at once conjures up swimming pools and gymnasia and playgrounds and perhaps stadia and indoor sports palaces. We will only by some unnatural stretch of our imagination be led to include theaters and opera houses and concert halls and cinema palaces. And museum directors have so operated, on the whole, that we will not think of museums at all.

Yet it is not far-fetched to include all these things

within the comprehensive term. Perhaps we should include more. If the television screen in my home is recreational, what shall we say of the studio whence come the signals that bring the set alive, even the studio where no claque is cheering the players on?

After all, "recreation" does mean "refreshment of the strength and spirits after toil; diversion; play." It is in forgetting the word "diversion" that specialism may lead us astray.

Some of us are unable to be angry at the Dodgers for treating Charlie Dressen so badly. Some of us are completely indifferent to the weekly prize fights or wrestling exhibitions (though fewer of us than many of us are willing to admit). Yet most of us can agree that there is undoubtedly diversion in such spectator sports. We believe it without having to have it proved by the admissions statistics. But this is not the case for the "higher arts." Even the lively arts are always seeking statisticians to tell them they are doing well. Librarians count their circulation figures. Museum directors put meters on their turnstiles. Sellers of pocket books try to point to evidence of a renascence of culture by virtue of the thousands of copies of Shakespeare they sell, neglecting to remind us of the millions of Spillane. This makes them feel better about themselves.

We all want approval for our actions in support of other people's recreations. Most of us need this approval because our financial support is immediately affected by the slightest suspicion of waning public interest. And all of us in the long run need the same kind of support these days. Even the Metropolitan Museum or Opera have to meet payrolls and find enough ordinary people to support them in place of the few extraordinary ones who once did. The only reservation one can make about this is that the penalty for too small a box office perhaps falls more rapidly on Hollywood than it does on the Metropolitan. Also there may be more different kinds of kibitzers in Hollywood from the popcorn-selling theater owner through the mysterious degrees of magnatery that are reputed to govern the whims of the films. But perhaps really there are just as many kinds of kibitzers at the Metropolitan and they are only more secret and more correct.

In any event there is quite as much competition for a man's leisure time today as there is for his leisure dollar. There are many who want higher degrees of participation and object to spectator sports (I can assure the younger generation that there is a time in life when the more spectatorish, the better the sport). These people are making it easier all the time for us to get out of doors. They are getting highways to take us to the outdoor places and are designing the boardwalks and the dressing rooms at the beaches and the overnight lodgings and bars at the ski-bowls in the most entrancing terms. It is a joy to spend time at these places even as a spectator with never a swimming trunk on your haunches and never a ski-harness on your feet. After hours of things which might have been good for you, you can find it easy and pleasant to eat too many hamburgers and drink too much beer, things which are not good for you.

It is a little less clear that things are made easy at the movies or the theater. It becomes always less clear as the tone of the enterprise ascends. The location of these installations has not changed with the times, they are hard to get to, often hard to get into. When you do get in, you are often still looked upon with suspicion by jaundiced attendants. You cannot smoke or sing or talk very loudly or do any number of things that would contribute to the totality of the recreation. I suppose I need not describe the appearance of the lunchroom in a library or museum or the nature of the lunch itself.

All of our recreational activities, except perhaps one or two of the outdoor ones like skiing, seem to have suffered too much concentration on making the main activity work well. (Maybe after-skiing comfort looks so good because you are too sleepy to care.) The main activity must of course work well. The Dodgers cannot play on a cricket field. But a little more attention could be paid to the side facilities. Even if you like the paintings of Cadmus and Marsh, going to Ebbetts Field would be more pleasurable if it could be done without having some stranger pour beer down your neck. Going to the museum would be more fun if you did not have to look at so many pictures and could find the ones you wanted to see; and much better still if they did not have to be approached with so much awe. Sometimes a drink or two will do no harm to a painting, even one by Giotto. I seem to remember that a little uplift was tried once at Yankee Stadium but do not recall whether it was a howling success. Obviously, it will not be a success unless the Yankees are a pennant contender and perhaps it is not needed if they are. But I suspect it would help.

I am not certain how much help the great light and popular recreations need in the way of diversified surroundings, but I am certain that the great serious and unpopular ones do need this help. And I am not suggesting that we build a football playing annex onto the back of the new Guggenheim Museum.

But life is a rounded thing and is not parceled out quite as our recreational buildings assume it to be. We spend a great deal of time in the educational world talking about integration of disciplines. We talk more than we accomplish, but anyway we talk. It seems to me it might be valuable to do more talking about the same thing in recreation. Great paintings could do no harm at Jones Beach and I mean great painting, not something dreamed up for the assumed taste of a beachcomber. The guy in the swim suit accumulating a burn may be already interested in painting, but if he isn't this is the place to catch him and not in the Metropolitan. By the same token it ought to be possible to have more fun in a museum, even to the extent of having a pleasurable lunch and some sense of intimacy with paintings which were never intended to be laid out in rows competing with each other all over the place.

I do not know what buildings will be shown in this issue, but I am willing to wager that you will find many of them handsome, convenient, admirably calculated to take care of the direct need which brought the public to them; and that by the same token you will find none

of this integration with other recreation for which I seriously plead. We have to believe, most of us, that there are things which are first class and things which are not, and we worry that so many people never seem to care for the first-class things we care about. But our efforts to give them a chance to care are puerile. And there is no other opportunity so grand as that of catching them off guard and in a festive mood.

I remember once hearing Alvar Aalto criticize a set of student designs for a progressive school. These designs were very knowing. All the students had met a progressive school teacher. All knew the heights of the little desks and other little things that little ones need in a progressive school. Each had incorporated radiant heating and north light and color and whatever else you have to incorporate. But all of them looked alike. Aalto had a simple but devastating question. "Tell me," he said, "where does the bear come in the window?"

We need more bears coming in the windows of recreational buildings. All it takes is a little more gumption, a little more imagination, a little courage to do something crazy. Very few important works have been accomplished by the thoroughly sane or are the product solely of inexorable logic. Orderly recreation, concentrated recreation, specialized recreation are almost a contradiction in terms. Let us have more bears and fewer directional signs.

I know that many museum directors and perhaps some baseball front offices are worrying about these things, but the fruits of their worries are very slow in coming ripe. On the whole only marginal successes can be expected in these directions. The great new opportunity probably rests in the community center which does have recreational purposes and does have to cater to a variety of recreational interests. This is a very real opportunity. If each specialized activity is made very good but is not thought of in connection with others, even the apparently extraneous, each citizen can go his hermetic way to his single hermetic amusement. He can bang ping-pong balls all night and never know that he might have enjoyed painting or square dancing. The utmost imagination may indeed result in buildings in which it is not too all-fired easy to reach the place where you can do the thing you want to do but have to encounter something else on the way. This will not be accomplished by making the whole business so infernally flexible that you can do anything everywhere even if you can do nothing very well anywhere. Rather, the recreational complex will consist of very specially functioned spaces put together like a great encyclopedia which educates us not by what it tells us about the subject we were looking up but by the other unexpected things we find on the way to the truth we were seeking. This is what I think Aalto meant by his bear.

Right: The Wedding Dance by Peter Bruegel. Below: Ball of the Nobility in residence of German petty state, ca. 1750. Below right: Dancing the "Jarake Mixteca," Mexico



Detroit Institute of Arts



Bettman Archive

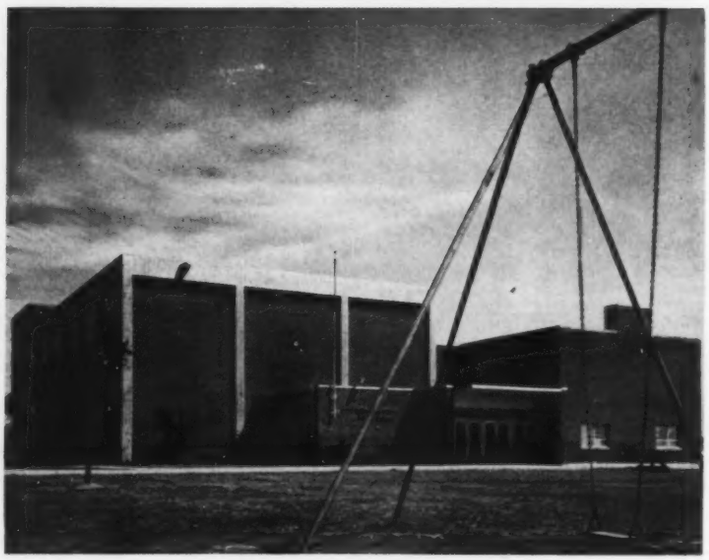


Walter Reuter from Black Star

Park-School Cooperation Adds to Funds

Relatively new in planning for recreation is the collaboration of the city park system and the schools. Planning and spending together they both achieve much more. And the activities of different age groups fortunately divide the hours of the day to permit multiple use of the facilities without too much overlapping or confusion. Legal regulations have frequently been restrictive, but these are being surmounted in increasing numbers of cities, including some of the largest. Seattle is a notable example, as witness the large field house shown below, but there are many others. Such collaboration involves, of course, especial cooperation in site selection, but once this is accomplished combined budgets come into play, and more facilities can be built and more intensively used. The idea seems to work best when the school is a high school, since here the facilities tend to get the most expensive, and, of course, prove most useful to larger groups of citizens. And the high school then can become the true community school, offering its shops and meeting rooms, even its cafeteria, for adult use.





Dearborn-Massar

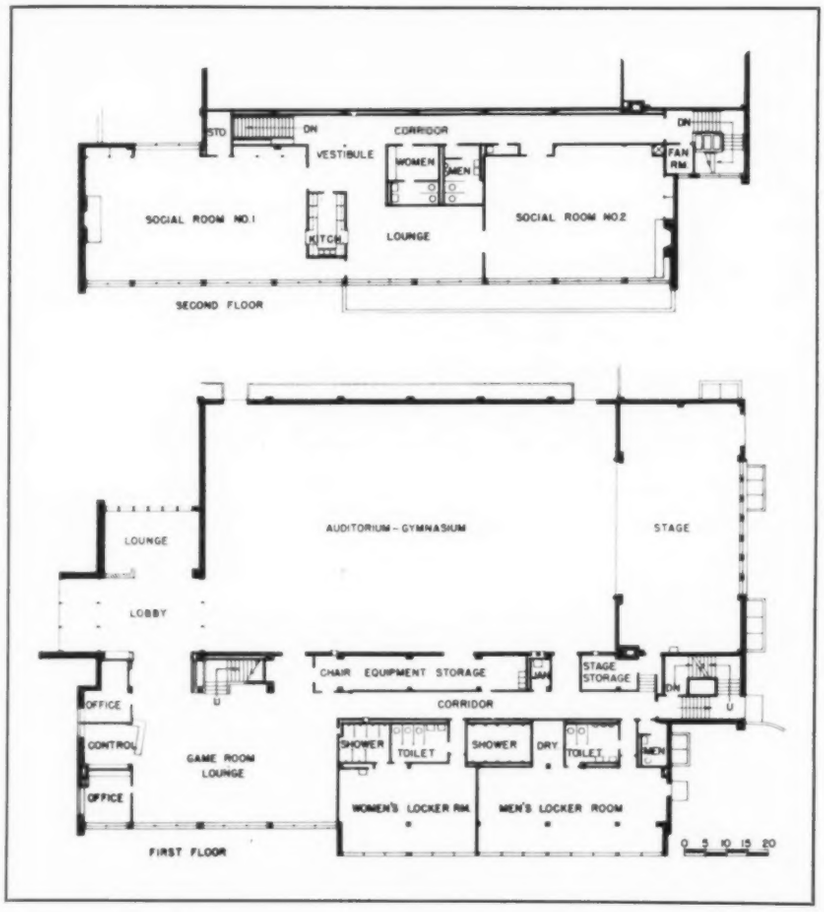
1 LOYAL HEIGHTS FIELDHOUSE SEATTLE, WASH.

Naramore, Bain, Brady & Johanson, Architects

Lincoln Bouillon & Associates, Mechanical-Electrical Engineers

W. H. Witt Company, Structural Engineers

Since the war Seattle has been rapidly expanding its park recreational program, frequently joining with the School Board. This field house provides indoor facilities to go with an athletic field comprising four city blocks. It has a combination gymnasium-auditorium (650 seats) with full stage and dressing rooms, social and lounge rooms with kitchen for catering service, game rooms, and, of course, the toilet and locker facilities for outdoor sports. Note especially ceiling in gymnasium; inverted Pratt trusses added seven feet of available wall height for a band of directional glass block, throwing daylight against down-sloping ceiling. Furred ceiling contains air diffusers and guarded light fixtures, accessible for servicing through catwalks above the ceiling. The building contains 26,000 sq ft gross floor area, and was designed for a construction budget of $325,000.











In addition to the facilities in the first floor (plan above) the building has, in basement, field toilet and locker rooms, storage and equipment rooms and, in second floor, two social rooms and lounge with kitchen facilities for serving buffet-type meals

Recreation Centers Keep the Kids Occupied

Recreation centers, or youth centers, are a very active type. More sharply defined, the youth center addresses itself to the needs and problems of young people, and may, especially in the large city, focus its design quite sharply to youth even though it offers variety of entertainment. For example, a youth center must be designed for close supervision of all areas. Buildings of either designation, however, offer similar activities — arts and crafts, dancing, music, some indoor sports, social facilities generally. Many are built by cities, many by other groups, frequently as war memorials. There have been some for handicapped people, with facilities for the blind. Such buildings are springing up in small towns as well as in large cities.



2 THOMAS JEFFERSON RECREATION CENTER, NEW YORK CITY

Edward D. Stone, Architect

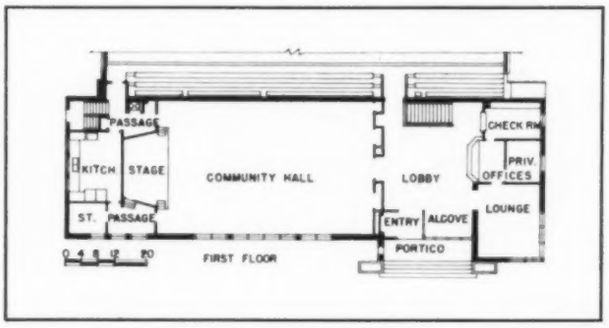
A representative recreation center for a large city, this is one of several in New York City's program. Note especially the facilities shown on the second floor plan for manual training and arts and crafts, also rooms for varied games. These are additions to earlier ideas of recreational centers, and broaden the usefulness of the building. Notice also, first floor, that locker and shower rooms are kept in the center of the building, and are designed for very close control. Youngsters in the tough neighborhoods profit immensely from these facilities, but are inclined to play rough if not controlled.



Pat Rasponte

3 RECREATION CENTER, HIGHLAND PARK, ILL.

Bertram A. Weber, Architect

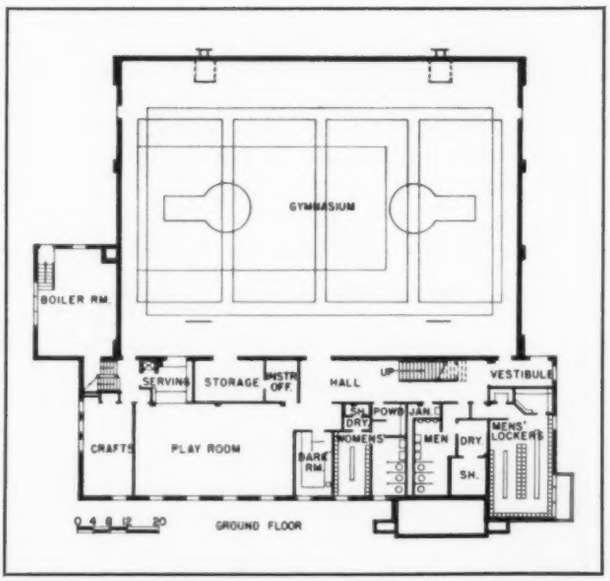


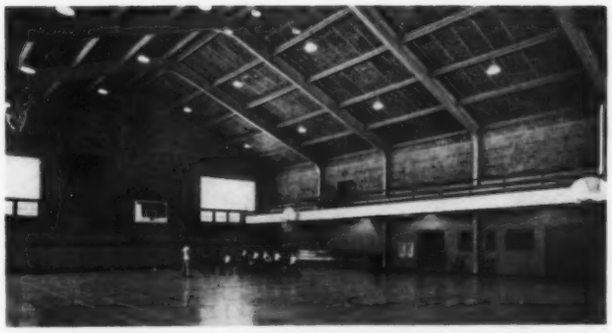
Though small compared with the large city centers, this one is for the community activities of adults as well as the sports of the youngsters, for a town of 18,000 population. The energies of the young are normally confined to the lower floor and the gymnasium, though the gym has balcony seats at the upper level. The community hall, with small kitchen attached, is designed to serve the varied purposes of adults, though the crafts room and the darkroom might also appeal to the grownups.

The site is wooded park property on the slope of a hill, adjoining open field and play areas. These are on a lower level at the rear, so there is a natural separation of activities. Play areas are paved with blacktop to be useful in any but the worst weather. The building is of red brick with limestone trim. Interior walls are exposed masonry for durability and economy, as the building was limited by the bond issue to $200,000.

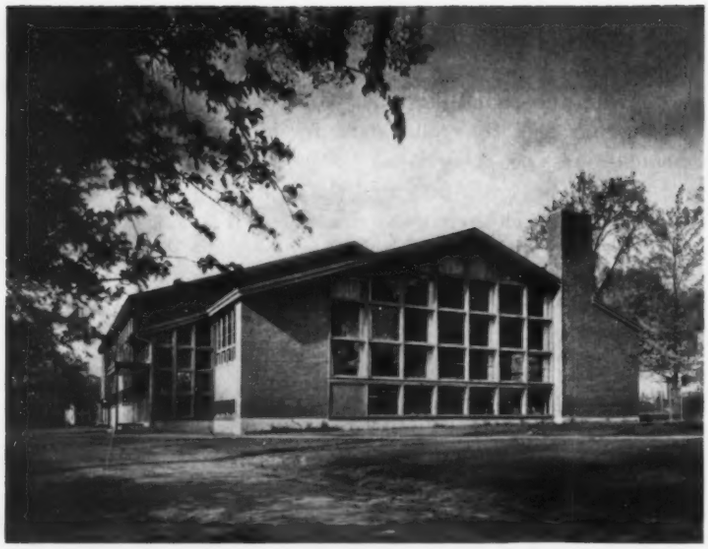


Hedrich-Blessing













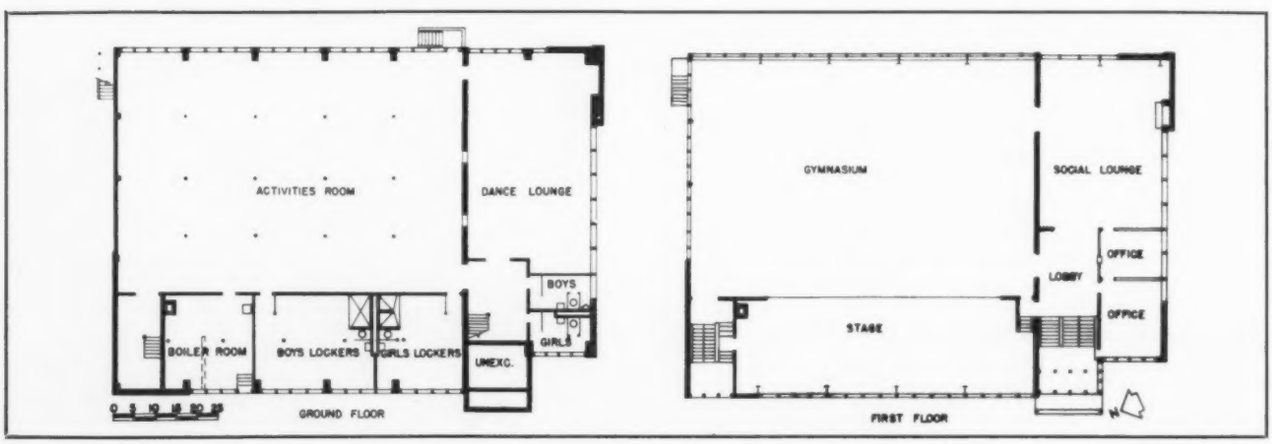


Joseph W. Molitor

4 GENTLE COMMUNITY BUILDING, HOULTON, MAINE

Alonzo J. Harriman, Inc., Architects and Engineers

This community building was designed to house facilities for all types of community and group activities, such as basketball games, concerts or lectures, club meetings, scout gatherings, dances, and so on. The gymnasium has a 70-ft stage at one side for use as auditorium or theater. The two main rooms on the lower level are for varied use. The building was done very economically, its cost being $123,750 for an area of 10,000 sq ft, giving a unit cost of $7.75.



Playgrounds Have Discovered Design

Playgrounds, one of the earliest-seen recreational needs of the city, are still very active. Trends: generally less formality, more imagination (play sculptures), more real fun, more variety. Originally for the tots, they are now for everybody, including the old folks, so they have grown larger, always with good separation of active and passive sports. Note: a good place for a bit of art and culture.



Ernest Braun

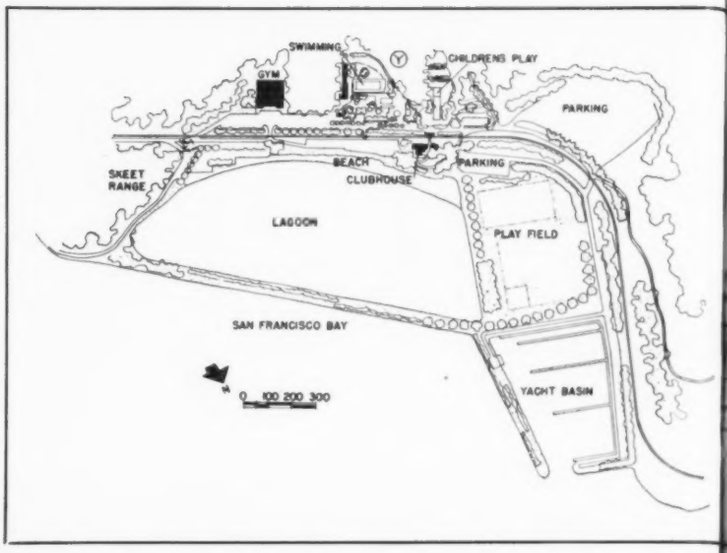
5

STANDARD OIL CO. OF CALIF.
ROD AND GUN CLUB,
RICHMOND, CALIF.

Eckbo, Royston and Williams,
Landscape Architects

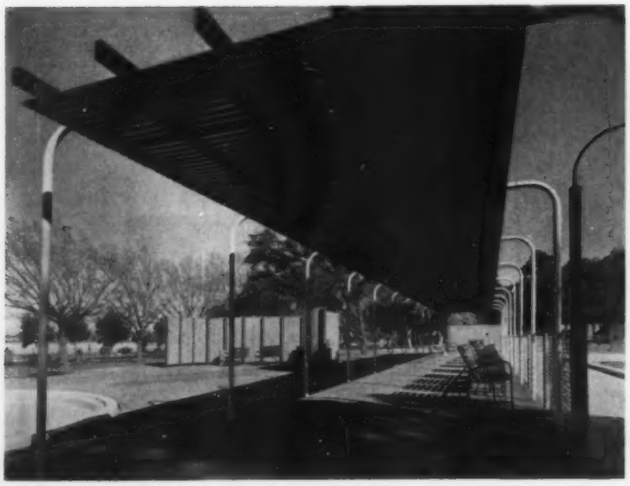
A good dash of imagination has converted this recreation area for Standard Oil employes from just another playground into the handsome center shown on these pages. The various techniques of landscape planning, contrasting textures, colors, light and shade, forms and plants, have been put to the practical uses of organizing and segregating facilities for different activities. Redwood screens serve as windbreaks and sunshades, and give privacy for sunning, sitting and talking. They are placed on a variety of play surfaces: concrete, grass, sand and tanbark. All construction was done from the landscaping plans by the employes themselves with materials furnished by the company management.





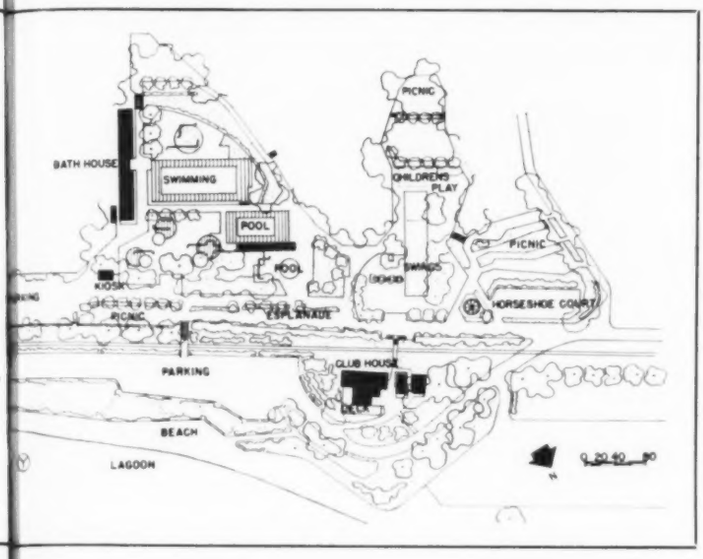
The Rod and Gun Club playground, illustrated here (top plan far right), is a part of the large recreation project shown in the plan above. Play equipment is brightly colored, segregated for age groups. Three pools are provided; the bathhouse and snack bar were designed by Ray Elmer and E. S. Meddaugh



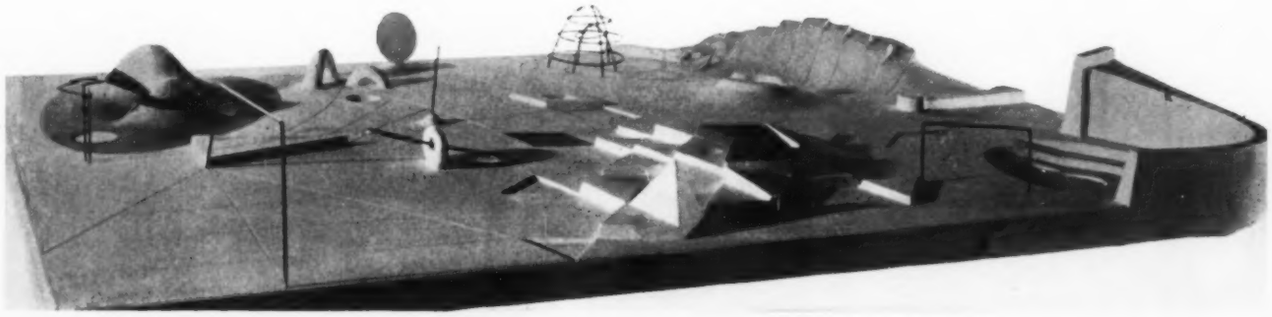


Ernest Braun





SOCIAL AND RECREATIONAL BUILDINGS

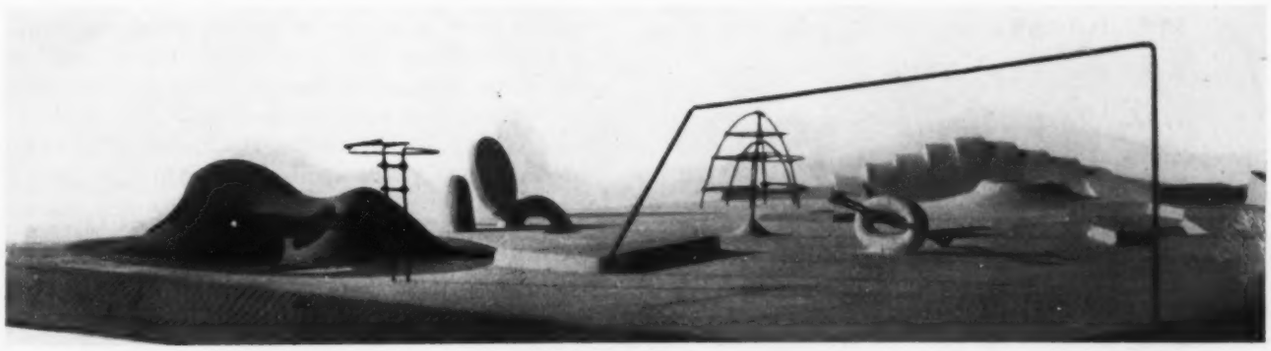




6 MODEL FOR A CHILDREN'S PLAYGROUND

Isamu Noguchi and Julian Whittlesey, Designers

Sculptural play forms are among the newest trends in playground equipment, with some now commercially on the market. They include redesigns of traditional equipment, as well as some original items, and are intended to stimulate a child's sense of color, space and form. This project groups a number of such play forms into a landscaped playground for younger children.



Photos by G. Barrows

Libraries Develop Their Social Sense

Libraries are not a stranger in this Building Types Study, especially since "the library is no longer a mere symbol of culture or a civic monument . . . it is becoming a friendly place which reveals the resources within and invites one to share its hospitality" (page 149, Dec. '52 AR). And especially since libraries are adding new activities: music, films, recordings, art and art exhibitions, story hours and other special appeals to different age groups or classified interests or hobbies. Frequently the library becomes the community center. Some even have smoking rooms and lounges to put reading into the class of "social" or "recreational."



Ben Schnall

7 MANHASSET PUBLIC LIBRARY
MANHASSET, NEW YORK

Gibbons & Heidtmann, Architects

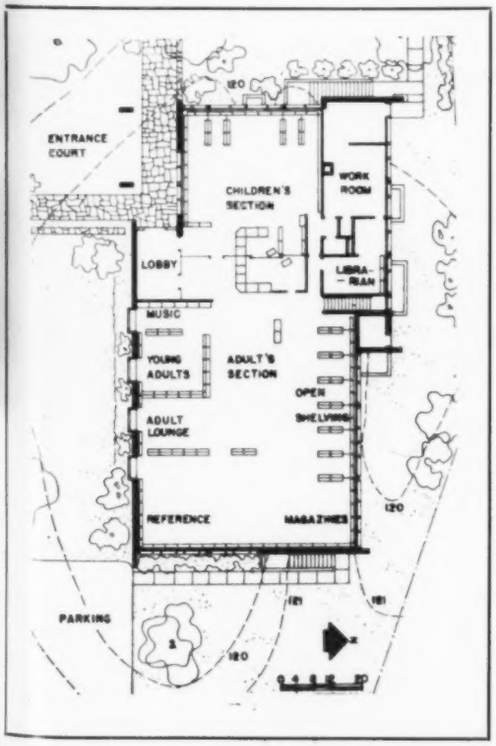
A crisp, bright and friendly air sets this new library apart from many of its antecedents, and makes it a pleasant place to go for browsing, reading or study. The exterior has a strong domestic character, with red brick, white trim and landscaped grounds. Inside, the plan has been kept as open as possible, with low bookcases serving to divide most areas. Because of the noise problem, however, the children's section is closed off by a plate glass wall. Placement of the charging counter near the single entrance gives good but unobtrusive control of the entire area in the library.





Use of a butterfly roof permits high windows on all four sides of the building, yet avoids excess ceiling height in the room. The ceiling is surfaced with asbestos-cement acoustic tile. The two sections of the charging counter are divided by a sliding glass panel to give flexibility







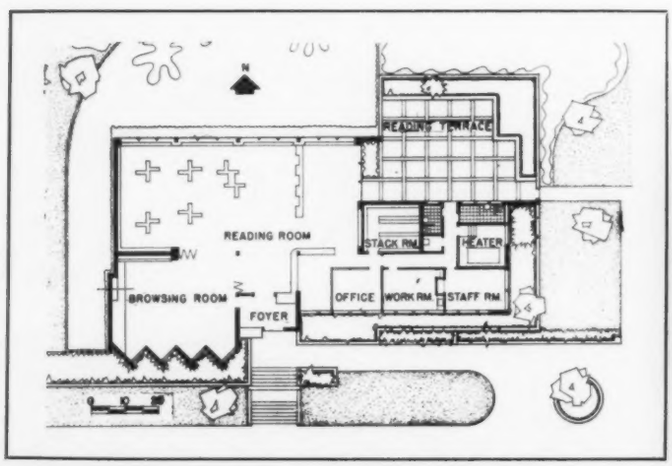


Philip Fein

8 PARKSIDE BRANCH LIBRARY SAN FRANCISCO, CALIFORNIA

Appleton & Wolfard, Architects

"Library with a clubhouse look" is the label the local newspaper gives this new building. The title is perhaps an apt one for the current concept that a library should be planned for use, enjoyment and relaxation. Large areas are set aside in this example for a lounge-like browsing room and a reading terrace. Both can be shut off for use as meeting, display and social areas without disturbing patrons in the reading room.



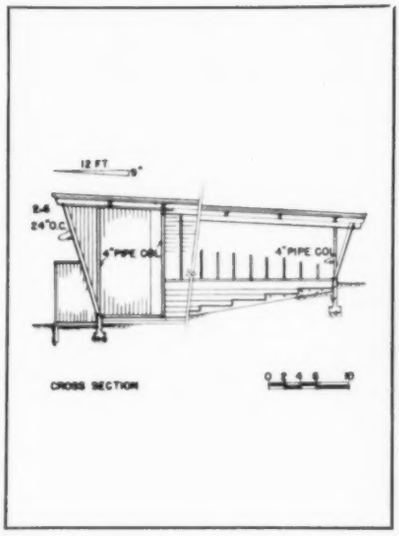


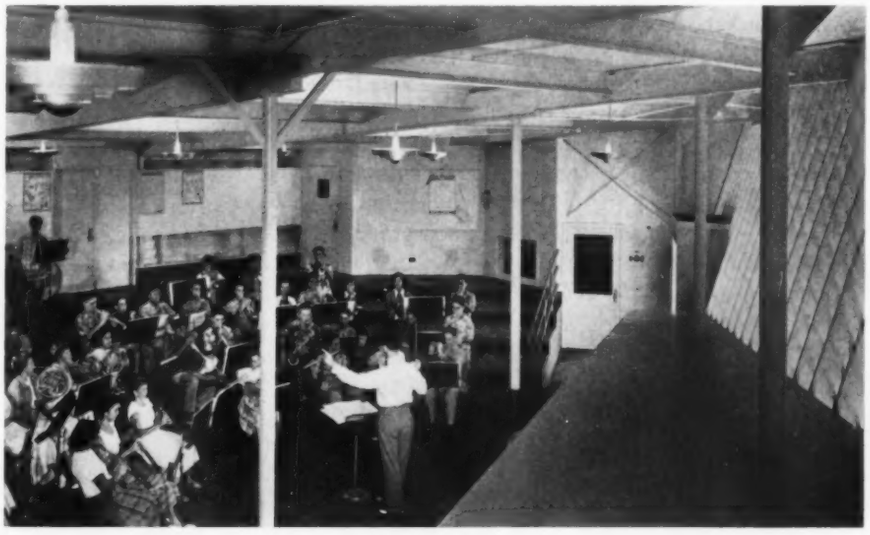




Music Develops New Building Types

Music, most universal of all arts, has always had its special buildings; now is developing new types, as witness this special building (below) for a school band. Participation is the new factor, and organized educational activities. Music is insinuating itself also into recreational buildings and parks, and is always asking for facilities, from the practice room in the school to the band shell in the park.





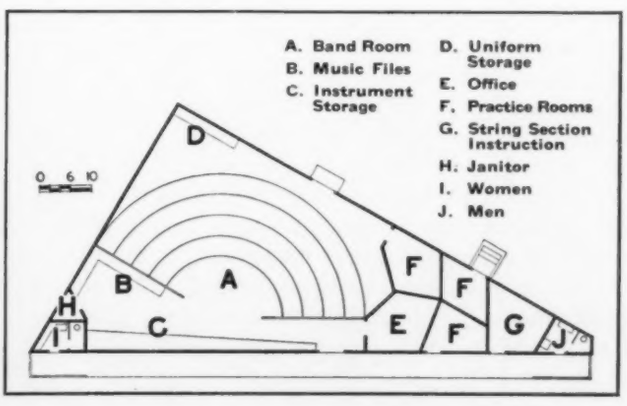
R. Wenkam

9 TRIANGLE BUILDING BANDROOM, PUNAHOU SCHOOL HONOLULU, T.H.

Yoshio Kunimoto, Structural Engineer

Basic requirements for a school music department are compactly fitted into this uniquely shaped building. The triangular plan, set by the shape of the land available, was used to advantage to help the acoustic properties of the rooms. The contrasting slopes of walls, ceiling and floor — none being parallel, and only one wall perpendicular — helps kill excess reverberation, while the use of redwood is said to increase resonance for overtones. Upper walls and ceiling have acoustical tile.





New Town Plans Integrate Recreation

10 CITY PLAN PROJECTS FOR LATIN AMERICA

Town Planning Associates:

Paul Lester Wiener and José Luis Sert

In the series of new and redeveloped city plans for Latin America by Town Planning Associates (see Architectural Record, August 1953, pp. 121–136), all recreational areas are treated as an integral part of the whole city by establishing a penetrating network of parks and parkways. The plan for Medellin, Colombia is a typical example; a diagram of its center portion is shown near right, with parks indicated by diagonal hatching. Whenever possible, the parkways ("D" on diagram) act as spinal columns for the different city sectors and are utilized, in part, for schools, sport fields, kindergartens and play fields. All parkways are for pedestrians only. Vehicular traffic ("F") branches into cul-de-sacs and, in most cases does not cross parkways; when unavoidable it crosses by overpasses. In new cities, there is little difficulty in establishing an integrated network; in established cities, existing streets are partially converted into parkways and correlated with new areas of the master plan.

In the case of Medellin, rivulets from the mountains surrounding the town are channelled and landscaped. This integrated park network provides a balanced distribution of open areas for all sectors of the city, and permits one to walk to nearby recreational facilities (or to most any part of the city), without leaving the parkways.

Each city has a main civic center to provide cultural facilities for the whole population ("A" on diagram and plan top right). In addition, there is a city-wide athletic center containing stadium and various facilities for major sports competitions ("B" on diagram), and several large parks ("C").

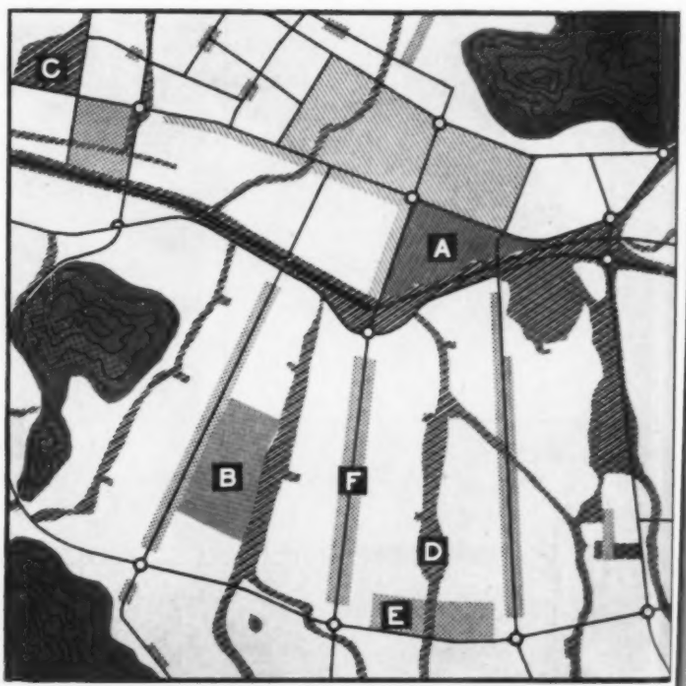
Cities are divided into sectors, each with its own civic nucleus of a church, movie, shopping center, library, etc. Sectors are divided in turn into neighborhood units for about 10,000 people ("E"). These units, too, have their own civic nuclei on a smaller scale. Groupings of dwellings or housing within these areas again provide play lots, kindergartens and some sport fields for the neighborhood populations. A typical example of such neighborhood units centered on a parkway is shown bottom right in a plan developed for Cuba.

Though there is no absolute standard, and each city has its unique problems, the firm tries to set aside from 5 to 10 acres per 1000 population for recreation.

A typical city-wide civic center set in a park area is shown right ("A" in diagram below)

LEGEND

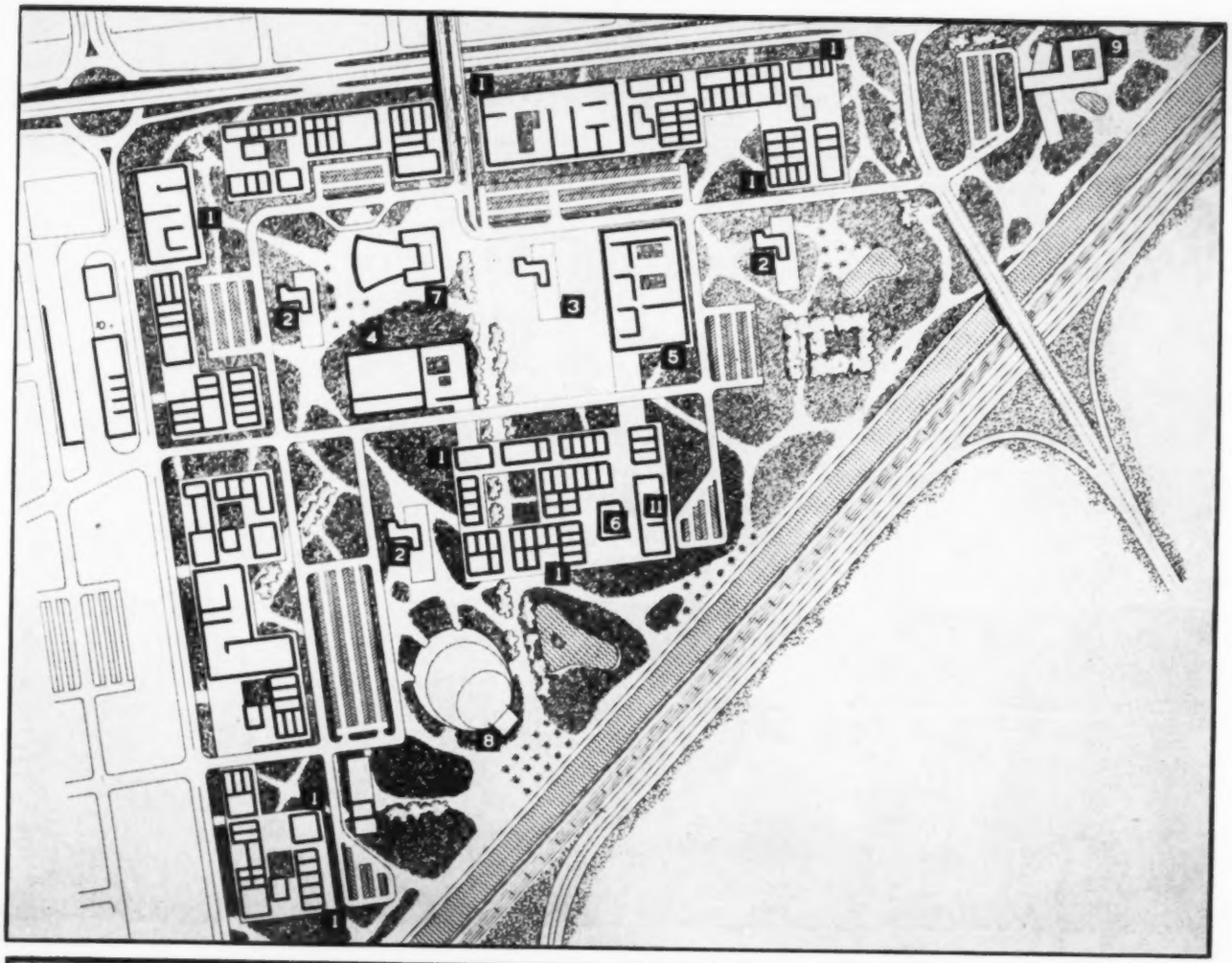
1. Shops, Offices
2. Office Buildings
3. State Building
4. Library, Meeting Hall
5. Museum
6. Movie
7. Theater
8. Open Air Theater
9. Hotel
10. Bus Terminal
11. Cafe, Restaurant, Exposition Hall



A typical neighborhood unit right ("E" in diagram) has its own play areas, centers on parkway

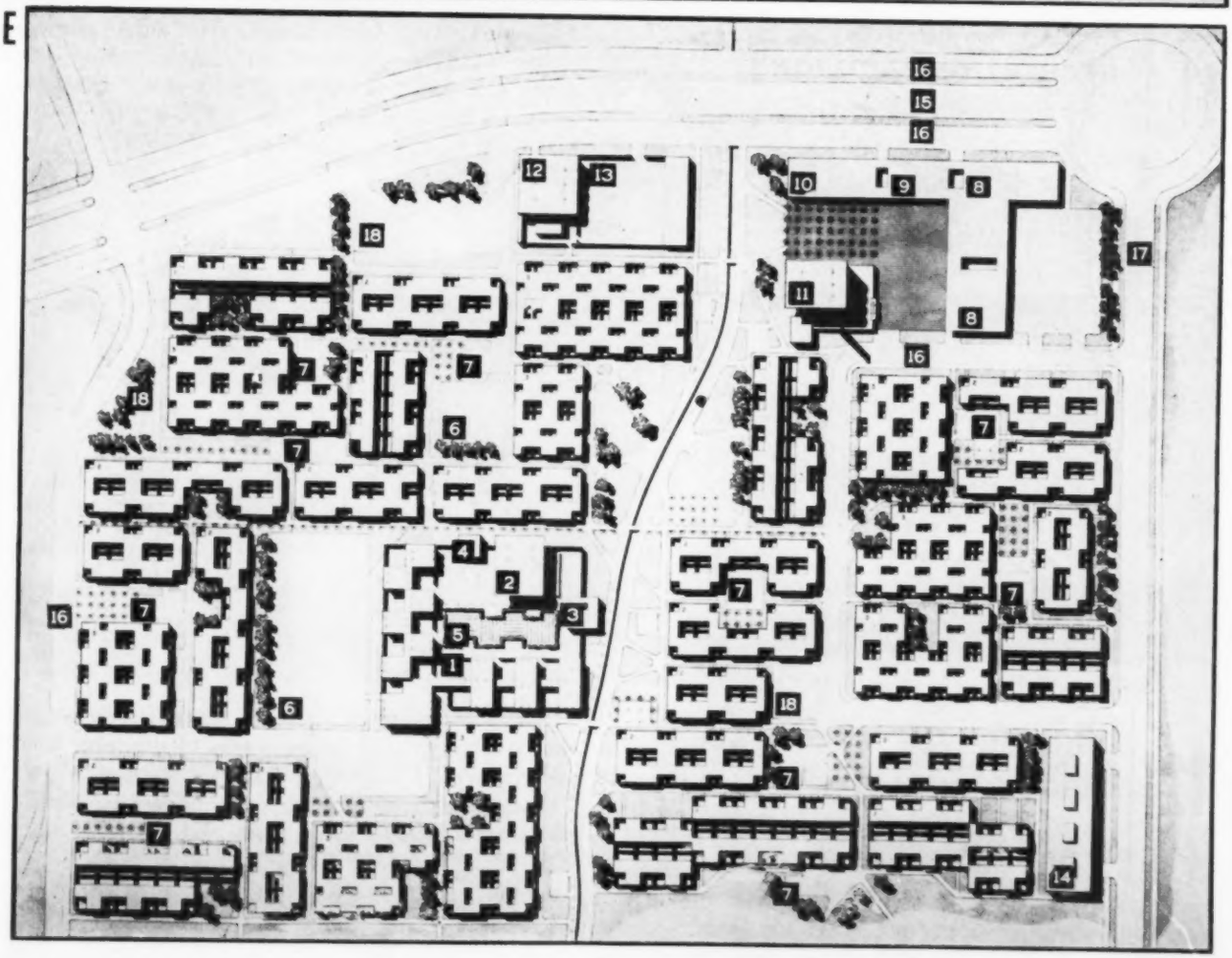
LEGEND

1. School
2. Multi-Use Covered Area
3. Nursery
4. Administration
5. Experimental Gardens
6. Play Field
7. Children's Playgrounds
8. Shops
9. Cafe
10. Restaurant
11. Church
12. Covered Market
13. Open Air Market
14. Garages
15. Highway
16. Service Roads
17. Avenue
18. Parking



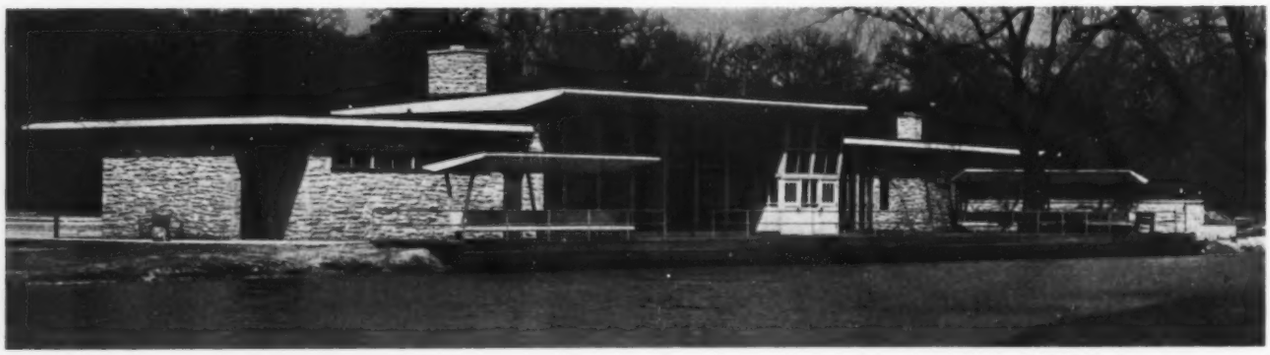
A

E



Water Sports Are Most Popular of All

Water sports are said to be *THE* most popular of all recreational activities. They beget buildings of many types — in resorts, yacht harbors, fishing camps, beaches, even city parks. Water sports seem to involve social activity as do few other types of recreation; maybe that explains their popularity. Swimming, for example, attracts lots of people who do very little swimming; indeed this has now been recognized in design of pool developments, with lawns and playgrounds and other things for those who just like to cavort in the sun in bathing suits.

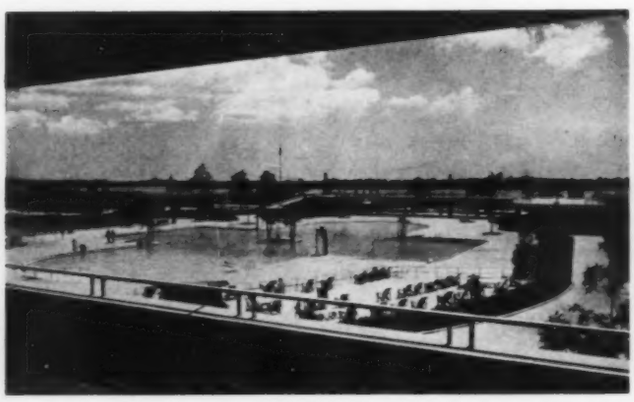


Richard Stirk

11 FLYNN MEMORIAL RECREATION PAVILION DETROIT, MICHIGAN

Swanson Associates, Architects

A lakeside site in a northern state gives a dual purpose to this pavilion — canoeing in summer, skating in winter. A large central lounge is flanked on the left by toilets, on the right by a lunch room, kitchen, office, skate checking facilities and a first aid station.



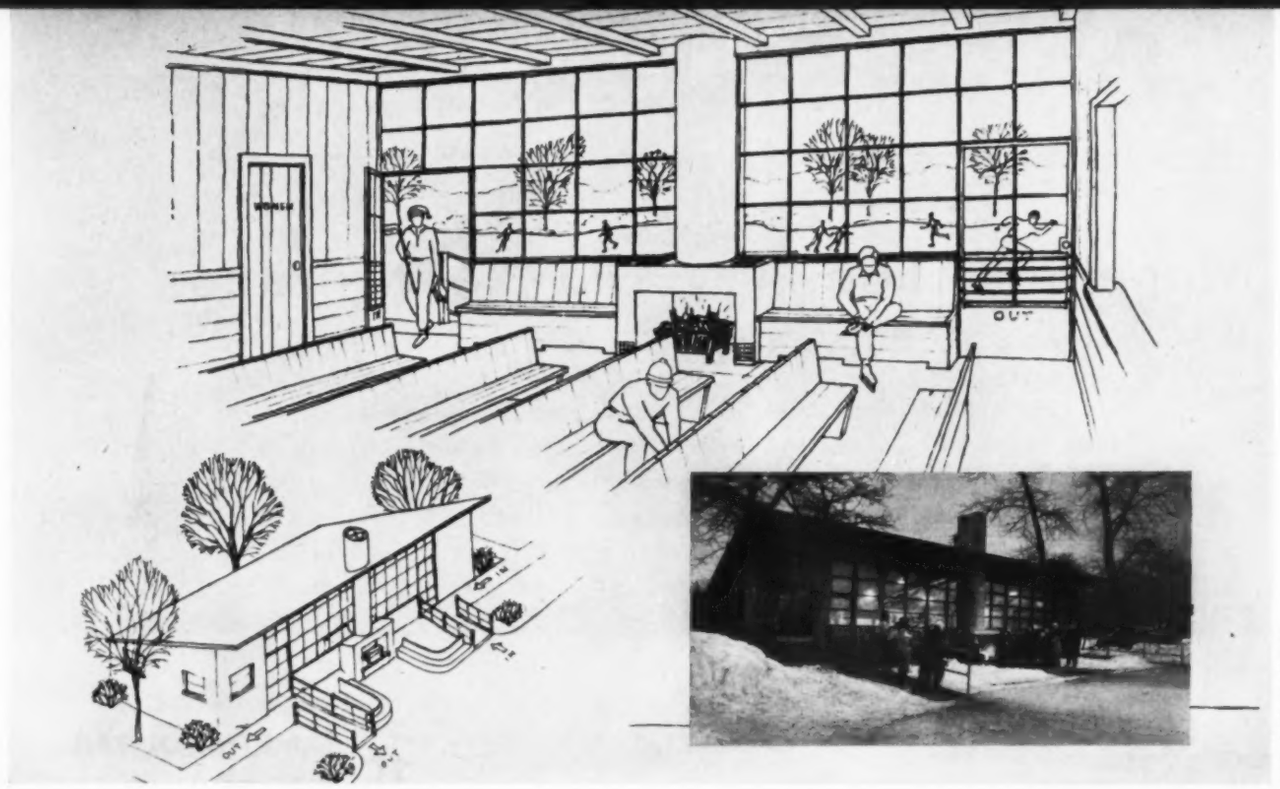


Richard Garrison

12 SHOREHAVEN BEACH CLUB BRONX, NEW YORK

O'Hara, Hedlander and Edson, Architects

The increase in the allotment of space for sun bathers can be noted around the main pool of this large beach club (above). A wading pool is provided for children. The building shown at right houses offices, lockers. The project also includes game courts and a band shell.



Hedrich-Blessing Photo

13 SHELTER IN HUBBARD WOODS STATION PARK WINNETKA, ILLINOIS

Howard T. Fisher & Associates, Inc., Architects

A removable glass front gives a dual use to this park shelter. It serves as a convenient open pavilion in summer, a snug shelter for skaters in winter. Portable freezing units have been used in similar set-ups, because of warmer winters; they are sometimes used over tennis courts. Other places use permanent installations.



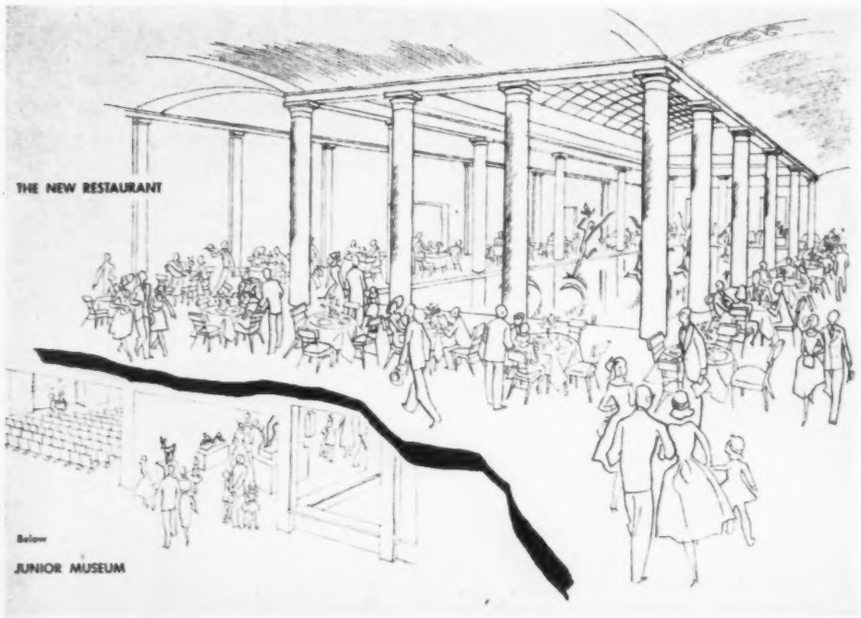
14 PUBLIC BEACH RESORT LINDA ISLE, NEWPORT HARBOR, CALIFORNIA

Welton Becket & Associates, Architects

Water-sport, yachting and seaside enthusiasts will find a bonanza of facilities in this island project: beaches, a pool, boat slips, and living, dining and amusement establishments. The rear portion of the 27-acre island will be divided into 61 lots for private homes.

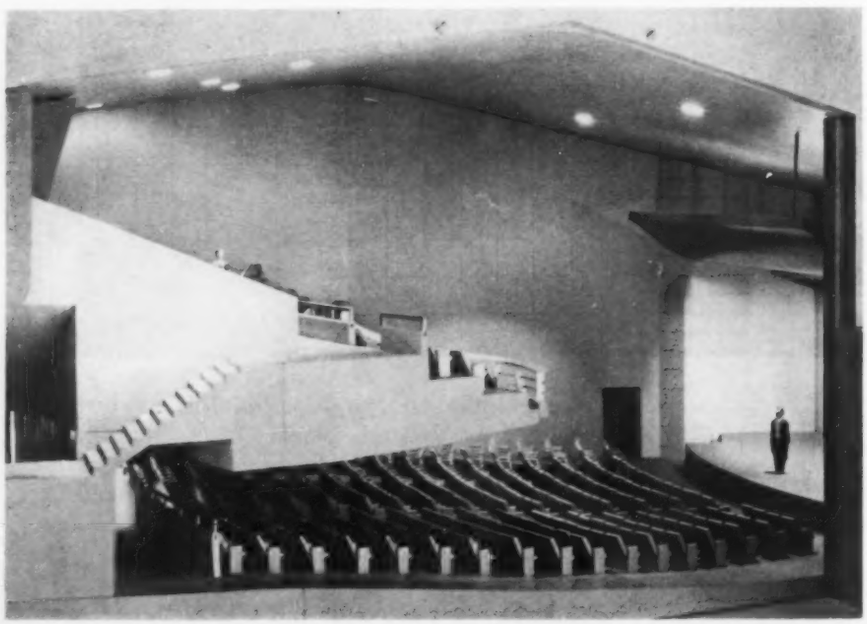
Museums, Too, Try the New Trends

Museums and art galleries were once altogether too stuffy to qualify in the category of "social and recreational." But they are catching on. The new idea is to popularize them, in a nice way, of course. A junior department is one stunt, along with special showings or topical exhibits. Smoking rooms are appreciated here too, and cheerful restaurants, and better lighting and more intimate displays. A few museums are even breaking out with picture windows, to reduce that feeling of being merely storehouses of ancient paintings. The participation idea is working here too.



THE NEW RESTAURANT

Below
JUNIOR MUSEUM



Courtesy of the Metropolitan Museum of Art

15 METROPOLITAN MUSEUM OF ART NEW YORK, N. Y.

A large portion of the Metropolitan Museum will be reopened in the near future, and will reveal a brighter, lighter series of galleries to its patrons. The general lighting level has been raised by various combinations of indirect, spot and down lights. Large windows have been placed to capture vistas through surrounding Central Park. New smoking lounges have been spotted through the galleries. Visitors' enjoyment should also be increased by the relocated restaurant: an existing colonaded gallery is being fitted with fountains by Carl Milles and decor by Dorothy Draper. An auditorium addition, designed by Voorhees Walker Foley & Smith will be flanked (below) by galleries of related exhibits.







Joseph W. Molitor

16 MUSEUM OF ART OF OGUNQUIT OGUNQUIT, MAINE

Charles Worley, Jr., Architect



The trend to get away from the "bank-vault" atmosphere often associated even with small museums, is clearly reflected in the design of this little building (above) for Ogunquit. The large central foyer, which serves as a sculpture court, has glass walls at each end to permit a view of the precipitous sea-cove below as one enters the building. The building contains three other galleries, and was planned as a cultural center for the community.

17 ART GALLERY, DESIGN CENTER YALE UNIVERSITY, NEW HAVEN, CONN.

Louis I. Kahn, Architect

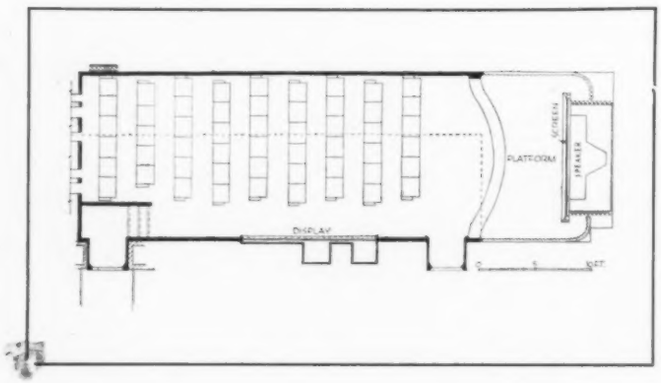


Alburtus Yale News Bureau

Yale's recently dedicated art center (right) could perhaps be best described as a working museum. The structure will be used both for gallery purposes and for art, architectural, city planning, graphic arts and other classes. Construction elements and materials frankly dominate the design — all but the floors are left unfinished and exposed. Ceilings are formed by a unique system of cellular reinforced concrete slabs forming tetrahedrons, contain utilities.

Theaters Fight TV With New Appeals

Theaters are not now as active as other types, but they are not dead yet. Newer ones are more social, more recreational, more comfortable. They are adding many new attractions besides popcorn and 3D, all with the idea, as Burchard says, of less specialization and more enjoyment. One suspects that the social aspects of the theater, perhaps heightened somewhat, are the best weapon against TV.



18 PARAMOUNT PREVIEW THEATER NEW YORK, N. Y.

Reisner & Urban, Architects

This screening room in New York's Paramount building holds much in common with many of the little "art theaters" which are gaining popularity across the country. A faintly elegant simplicity is combined with maximum comfort to provide a background for the patrons to see the movies, themselves and exhibits of paintings.



Joseph W. Molitor



THE STRUCTURES THAT HOUSE US

By Fred N. Severud
Severud-Elstad-Krueger, Consulting Engineers

Familiar to most of the readers of the Record *is the author's use of analogies taken from nature to make structural principles clearer and more vivid. Much of Mr. Severud's engineering philosophy is manifested in these examples. With articles such as this he hopes to stimulate more imaginative expression of structures.*

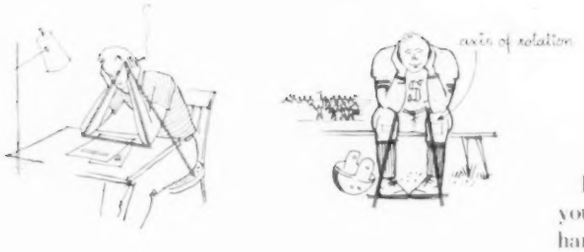
Drawings were prepared by Raniero Corbelletti and Joseph G. Merz who worked in close collaboration with Mr. Severud on this study

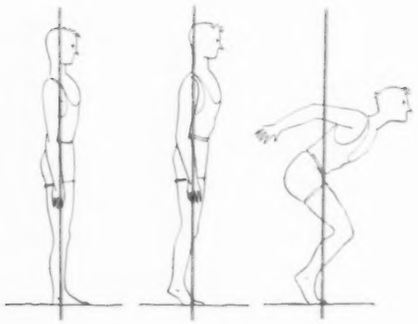
IF I WERE TO SPEND a number of days in the library, poring over books written about the human body, I probably would find much information on the points I would like to bring out. Nothing would please me more. However, time is a hard taskmaster, so I have decided to do the best I can on the basis of my own observations of some of the marvels of the human body as a structural system.

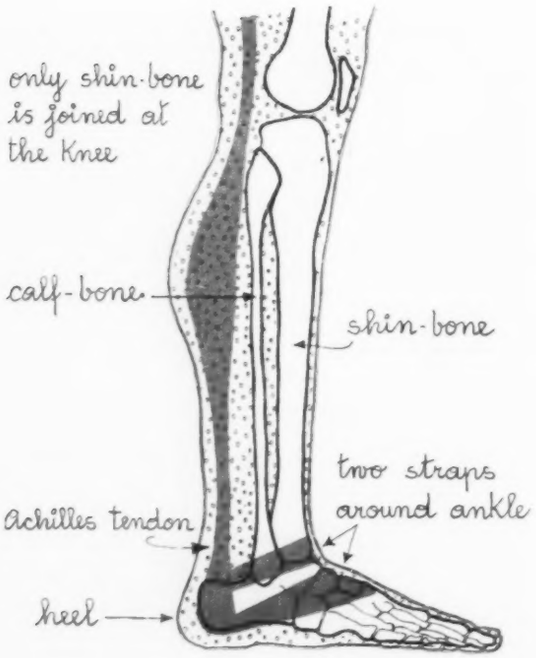
I realize full well that my own appreciation of its harmonious integration is thoroughly inadequate, and also that describing this in technical terms instead of expressing it in exultant poetry may be questionable. I believe, though, that even a crude and very limited presentation may provide incentive to dip into this seemingly inexhaustible reservoir of demonstrations of structural problems masterfully and brilliantly solved. In our awkward and clumsy fencing with gravity, we might well acquire a deep sense of humility, if no more, by attempting to get insight into how the Master does it.



"The Thinker" by Rodin





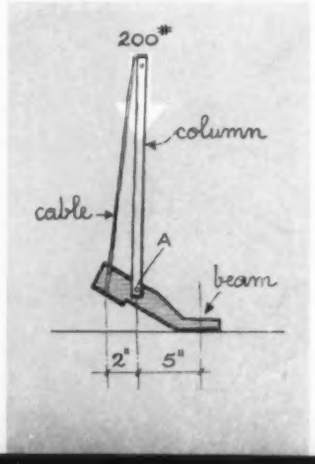


If you read this article with concentration you may lean your elbows on the desk with your head propped on your hands, as in the small sketch. Did you ever think about what a nice space frame you have instinctively provided, which allows the head to be perfectly still and relaxed for concentrated thinking?

Friction between the elbows and the desk will prevent the arms from slipping, and thereby ties them together. Now, if a desk is not available and you still want to concentrate, you might take the posture immortalized by Rodin in his statue of "The Thinker." However, if you desire a greater sense of security you would need some lateral stability in order to not be dependent upon the perfect line-up that this posture requires. So the posture shown in the sketch with both elbows resting on the knees, is more stable, though admittedly less graceful.

Since there is no tie to prevent the elbows from spreading, something must be done to keep the knees in place. This can be done by a muscular arrangement, but this muscular exertion can be greatly minimized by turning the feet with the toes inward, in a pigeon-toed manner. This puts torque on the calf and shin-bone arrangement which we will hear more about later, and this torque will oppose a certain amount of outward movement of the knees. The axis of rotation is a line drawn from the heel to the hip.

Let us ramble along a little further and examine some other aspects of our own fantastic domicile. What is wrong about being flat-footed? Why the expression: "Get on your toes?" To "Get on your toes" might well be changed to: "Float your heels." The body weight is carried from the knee into the shin bone which delivers it to the ankle. The ankle acts as a fulcrum, and the position of the foot about this fulcrum is governed by the calf muscles which are connected to the Achilles tendon from which the heel is hung. This tendon is anchored by being strapped around the ankle. If we move the body weight forward so that the center of gravity falls above the toes, stability is attained even when the contraction of the calf muscles makes the heels airborne.

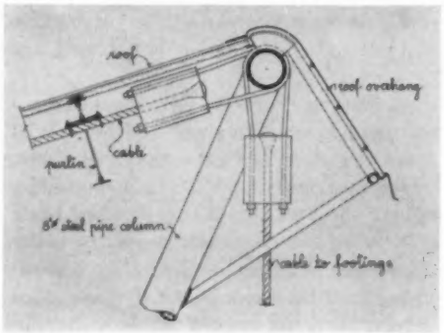


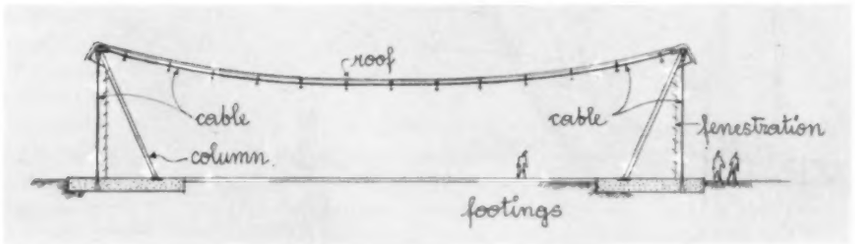


To better formulate a mental picture of the magnitude of the forces at play, a few calculations may be helpful. The analysis is simple, but simple analyses give good training in fundamentals.

What is the approximate force in the shin bone of a 200 lb man standing heel-hung on one foot? If we simplify the structural system and assume weightless members, this is about the problem, pictured in the simplified sketch of the leg and foot:

Cantilever moment around "A" is 200 lb x 5 in., or 1000 in.-lb. The same moment must exist on the other side of "A" so the pull is about 1000 in.-lb ÷ 2 in. or 500 lb, ignoring slight slopes. This force of 500 lb tends to shorten the shin bone. The weight at the knee has the same tendency, so the combined force on the bone is 700 lb in compression. Does it surprise you that you carry 350 per cent more load on your

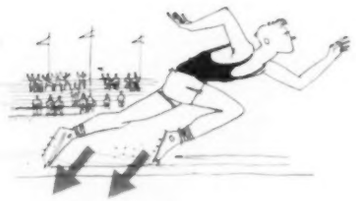




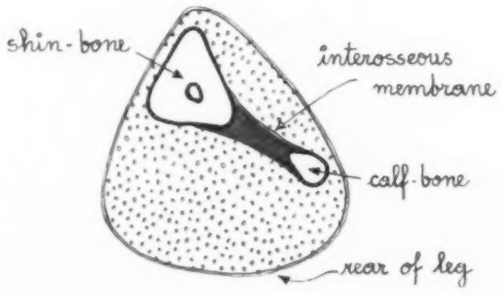
shin bone when your heels are hung? You don't believe it? Try it on one foot with a girl in your arms!

An application of the general leg-foot principle is used in the sketch for a projected factory roof. Here the pull from the catenaries is resisted by the concrete floor, acting in compression. The force is brought into the floor by a slanting "shin bone." The anchor cables act as Achilles tendons and the footing is, of course, the foot.

Mathematics aside, what do we gain by airborne heels? We have "prestressed" the shin bone and are ready to snap into action. We can admire the sprinter who, by increasing the pull in the calf muscles many-fold, whips his toes against the ground and covers a hundred yards in close to 9 seconds. In the excitement, even we might have floating heels.



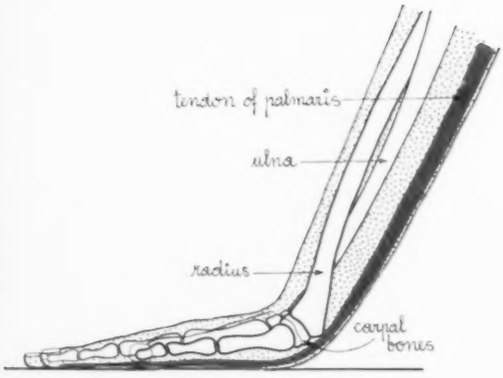
Sprinting is quite a punishment for the shin bone. If, even standing still, the force is 350 per cent greater than the body weight, isn't running disastrous? Fortunately, the shin bone has a "side-kick," the calf bone. But it cannot have been designed to carry much load because it is indeed a "side-kick." It is very casually, or so it seems, connected to the shin bone at the knee and at the ankle.

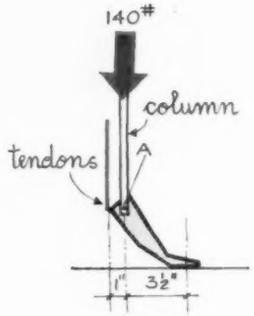


In plan, the assembly is something like this: The rectangular shape of the shin bone makes it very efficient against buckling in the front-back direction. Sideways it is quite flexible, but it is held in place by being connected to the calf bone. This is also flexible, but the interosseous membrane ties them together to give the proper buckling resistance in this direction also. The membrane is somewhat elastic so the shin-calf-bone-membrane team provides a strong, yet elastic column with spring action. For heavy shocks both bones bend ever so slightly, putting a stretch in the membrane until the main impact subsides. So between being heel-hung and spring-column-mounted, our underpinning is ready for a jump from the apple tree.









But now back to the toes. It is interesting to make a comparison between getting up on the toes and getting up on the fingers. The feet and the hands have many similarities. Obviously, the foot gets more punishment. Let us see how this is reflected in structural characteristics.

In the hand, the heel is conspicuously missing. Instead of the double cantilever system of the foot, the hand is a single cantilever from the wrist.

Let us make some calculations again, just to get the scale of forces in mind. If we assume 70 per cent of the weight on the arms, our same 200 lb friend carries 140 lb on the hands in the position of a push-up.

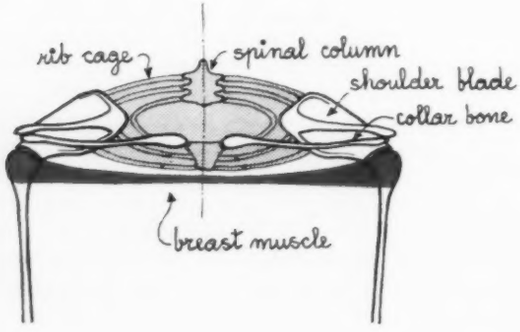
Now let him move over to carry all this weight on one hand, and then "get on his fingers." Here is the problem: the moment about "A" is 140 lb x 3.5 in., or 490 in.-lb. The tendons in the wrist are about an inch away from the top of the bone. This means 490 in.-lb ÷ 1 in., or about 490 lb in the tendons and the muscles pulling them. We find about the same pull in the under-arm muscles as in the calf muscle. But try to get on your fingers on one hand. If you can do it, you are pretty good, but this stretch is about all the muscle can take, whereas getting on the toes is done without conscious effort.

We see then that the two systems: (1) the foot, a double cantilever with a projecting heel for greater leverage, and (2) the hand, a single cantilever with a relatively small effective depth, have been carefully proportioned for the job each has to do.

Let us move on from a study of single members to an assembly, the torso-arm structure, which we will find of especial interest. What happens at the top of a push-up? For freedom and flexibility the arm is practically loose, being connected by a hinge at the top of the shoulder blade. This shoulder blade is in turn "floating," guided only by muscles and the collar bone, which is double hinged. What would life be like without the shrug of a shoulder? But this whole seemingly loose affair creates a stable support when the muscles are brought into play.

The main supports for the rib cage are the breast muscles. These are attached to the arms at the shoulders and act as catenaries, or cables. The structural system takes either of two forms: (1) the muscles between shoulder blades and rib cage are slack; or (2) the muscles are taut (see sketches).

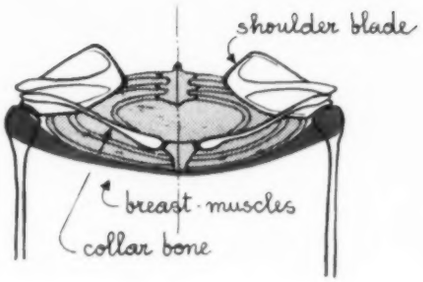


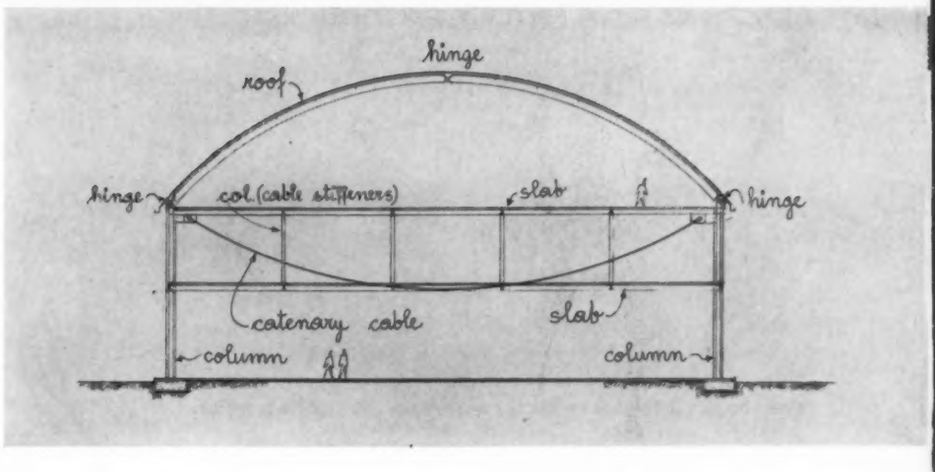


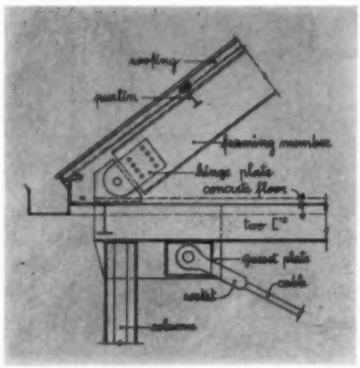
A mathematical analysis gives the interesting result that the pull in the breast muscles is the same as the total load carried by the arms. For a 200 lb man this is about 140 lb. Comparing this pull to the 700 lb taken with the greatest of ease by the calf muscles, we can appreciate the beautiful balance in the body between use and strength.

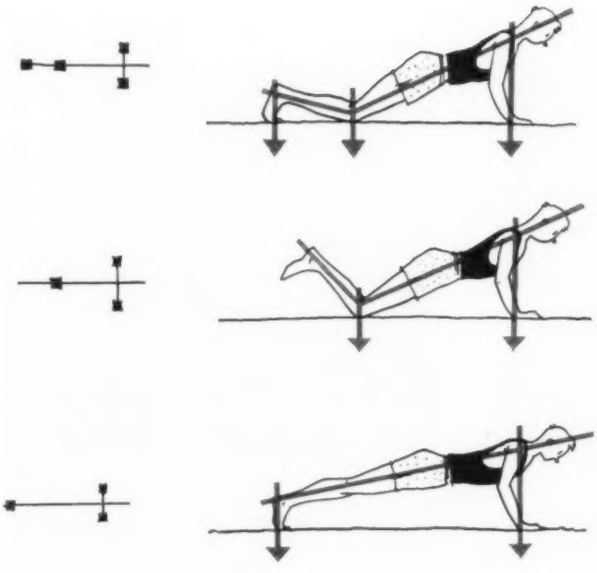
The rib cage idea applied to a structure is shown in sketch form and could very well be used — perhaps it has — where large, unobstructed spans are required.

Now I should like to outline a few simple exercises with the body as a whole, which will enable one to get a "feel" of the flow of stresses in various structural forms created for our battle against gravity. Most of our problems require not









only the interruption of gravity pull at a certain level, but also the enclosure of space and the carrying of loads at the same time.

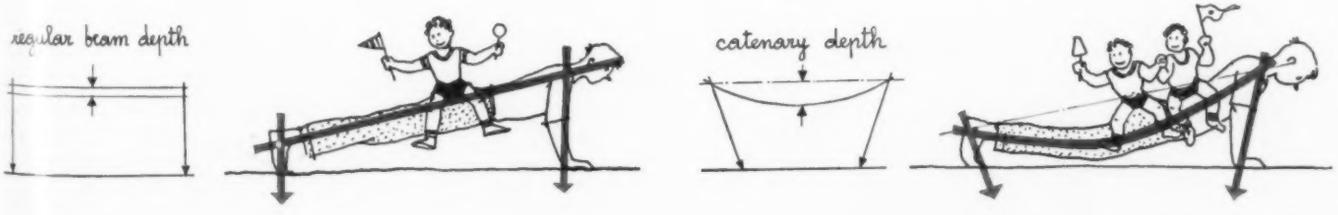
Let us try some simple gymnastics with the body weight alone. First, lie face down and relax all muscles. This is the most efficient way to satisfy the gravity pull.

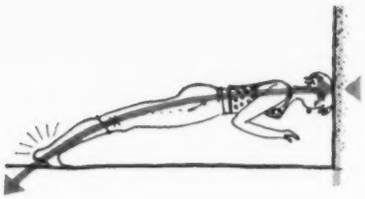
Now take the head, for instance, when one goes to bed. Instead of loading spine, pelvis, and legs, it surrenders itself without stalling to the pillow. Without struggle there is peace, so this is the condition of truce, with a blissful sense of surrender, until the alarm clock breaks the spell.

To create enclosure there are various ways the body can perform with hands, knees and toes on the floor. For simplicity let us consider the knees and toes as one column each. If the toes are lifted from the floor, a balanced cantilever condition is created. It is not uncomfortable. Of course, the pressure under the knees increases, since more load is carried here than before. But let the toes down again and lift the knees — a radically different set of stresses is induced. Carrying the body weight over the greatly increased span, with the head and neck as a cantilever, begins to be a real chore, and one can't endure this position too long.

To get a further insight, place any kind of a load on your back. The greater load intensity now emphasizes the nature of the stress. First try the hard way, with the body in beam section. Here the pull in the "front" muscles, resisted by compression in the spine creates a system of balanced tension and compression.

By "falling through" a catenary system is created and the stresses are greatly relieved because the construction depth is increased. The "front" muscles act as a catenary. Here is the well-known arch principle. But it becomes better understood if you try it yourself and realize the great relief it affords.



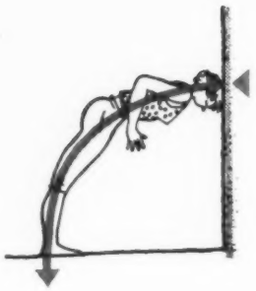


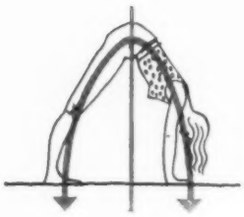
This gives the maximum construction depth of which one's body is capable, except if you become half an arch by standing up against a wall. Here the shifting back and forth of the feet gives an accurate feel of the relation between a flat and a steep arch. At the lower levels pressure on the head is terrific; or the feet may slide.

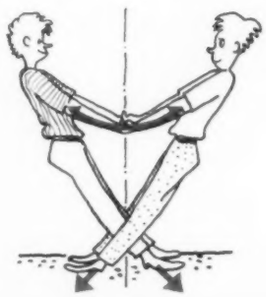
A more dramatic experiment with the catenary principle is a tug of war. It speaks for itself. The tension in the arm is resisted by the body as an inclined column, leaning way back to eliminate bending as much as possible. A good example is the North Carolina State Fair Pavilion.

A more complex experiment was very useful in settling an argument about whether or not a stair like in the sketch below is stable. You will soon find out in the human analogy that the axis of rotation goes from the right heel to the door knob. This makes it inclined and the body rotates to the left. Now put a stick from your left hip horizontally, and parallel to the door, to a nearby partition, and it becomes obvious at once how stability can be attained in a direct manner. The stair could be built without lateral support but would require sufficient reinforcing steel to take the twisting action.

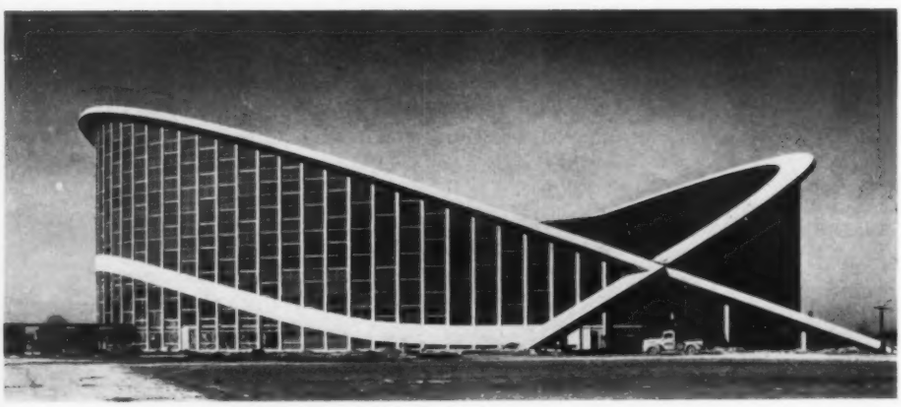
Now let me ask you a simple question. Where is the most efficient place to carry change (structurally speaking, that is)? In your jacket or pants pocket (say you wear a belt). In the jacket, the load is carried to the shoulders and travels through

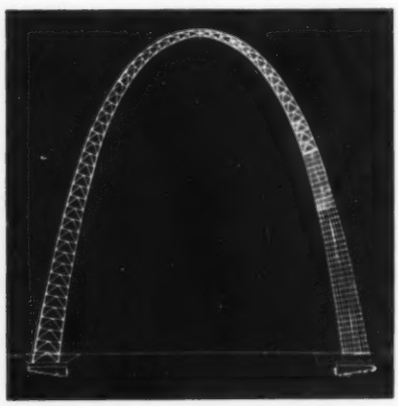






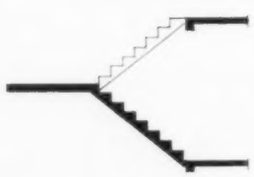
Jefferson Memorial Arch
Architects: Eero Saarinen and Associates
Structural Engineers: Severud-Elstad-Krueger





North Carolina State Fair Pavilion
Architects: Matthew Nowicki and William Dietrich
Structural Engineers: Severud-Elstad-Krueger





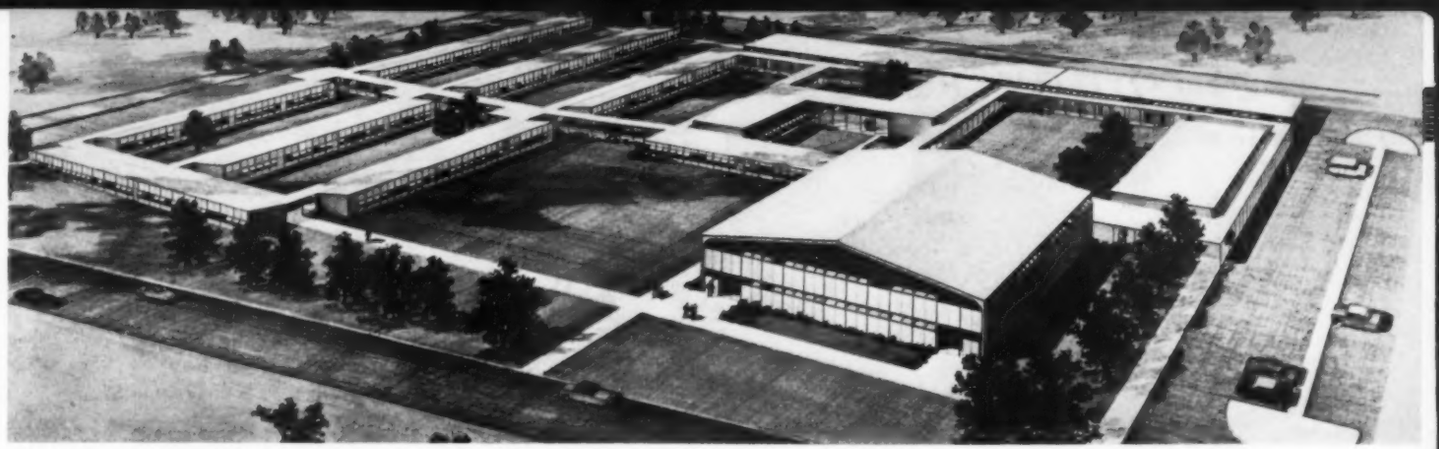
the full length of the spine. From the pants pocket it goes up to the belt and the hips. A whole spine has been saved and short-circuited.

Of course, the most efficient (although surely not very practical) way to carry it is in your shoes, so that when you are standing still, both spine, legs and feet are saved and when you walk only the legs carry the load.

Facetiousness aside, I urge that the crowning work of earth's creation be subjected to a comprehensive "structural" and "architectural" analysis.

In the meantime, it is hoped that this hastily composed scherzo may be a reminder that we are living within a frame that is "fearfully and wonderfully made."

Why not be your own testing laboratory? It asks so little and yields so much.



TIP-UP STEEL FRAMES FORM CLASSROOM WALLS

Moultrie Senior High School
Moultrie, Georgia
Associated School Architects

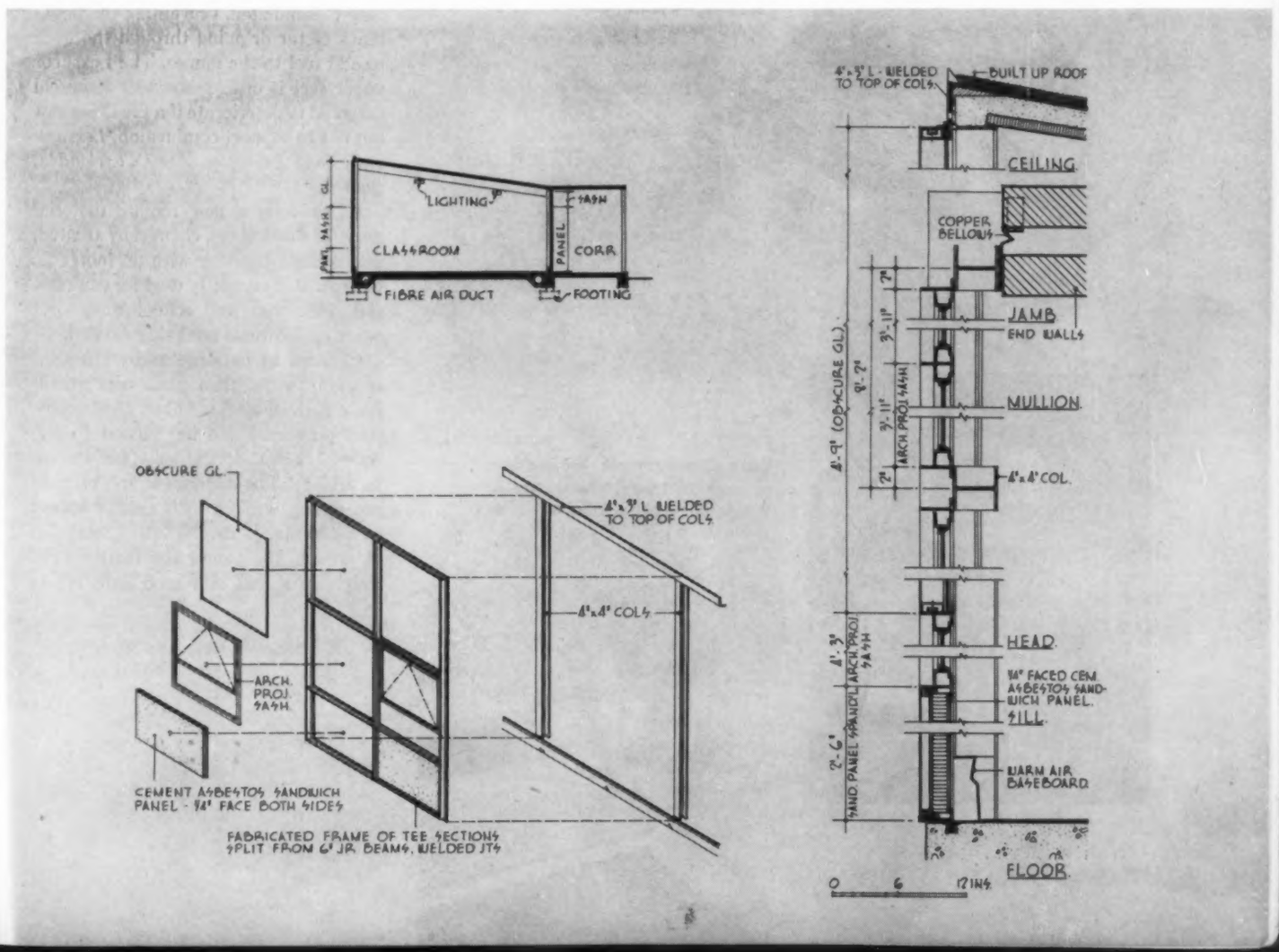
STEEL FRAME WALLS, tipped up into place, and exposed steel columns and beams account for most of the cost savings in this school. Since exterior walls are only 2-in. thick, extra classroom space has been gained. The Moultrie school has a total area of 62,500 sq ft, with costs running about $8.50 per sq ft.

The side walls are frames fabricated from split Junior Beams, and are made up entirely in the shop. A cement-asbestos sandwich panel forms the spandrel, an architectural projected window is set in the middle for ventilation, and opaque glass is placed in the upper section.

The frame is brought to the job completely fabricated, with panels and sash already in place. Then the entire frame is tipped up, tack welded to columns and top angle, and caulked. Glazing completes the work on the wall section.

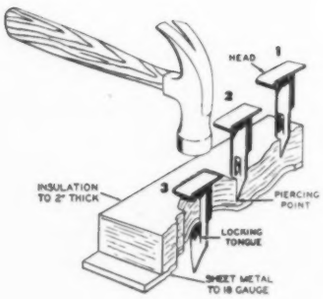
Since the architects were concerned as much with hot as with cold weather, the school was designed with open corridors. Most classrooms have their largest glass exposure facing north, and small, high windows on the south, protected by the covered corridor.

Classrooms are heated by the warm air perimeter method, air entering the rooms through baseboard units.

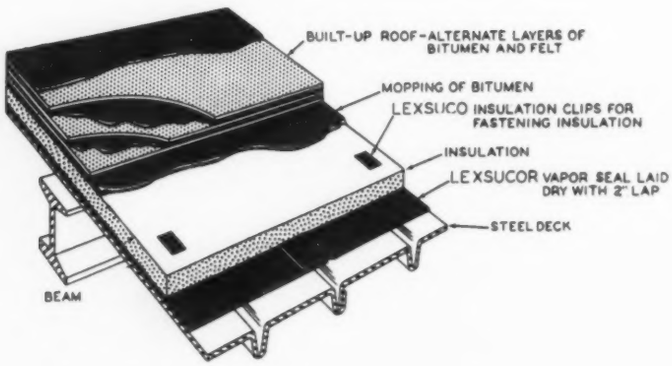


SOME RECENT





Left: fire-retardant roof uses special clips (above) to apply insulation without mopping to steel deck



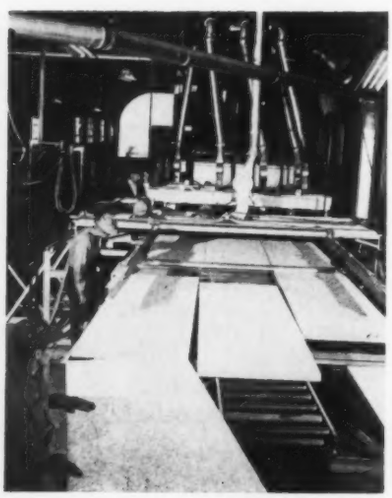
• A new type of fire-retardent roof construction has been developed to improve the fire resistant qualities of industrial roofs. *Lexsuco* roof is designed to (1) prevent dripping of inflammable asphalt or tar, (2) eliminate all combustible materials between roof deck and insulation and (3) improve roof rigidity, thus minimizing buckling of the steel roof deck during a fire.

The new features of this roof are (1) special insulation clips for fastening rigid or semi-rigid insulation mechanically to steel roof decks and (2) the *Lexsucor* vapor seal. The clip is designed to pierce metal decking up to 18 gauge with the use of an ordinary hammer.

With the special clips, insulation is applied to the steel roof deck dry. Mopping is eliminated, preventing the possibility of tar dripping through the deck to add fuel to the flames. The Lexsucor vapor seal is of fire-retardent Koroseal designed to deteriorate if a fire is present but not to support combustion. *Lexsuco, Inc., 4815 Lexington Ave., Cleveland 3, Ohio.*

• *Tectum* is a new roofing material made of wood fibers, chemically treated, and bonded together with an inorganic cement. It is currently used for commercial, industrial and school roofs, but other applications are being studied.

Claimed to be structurally stronger, in many ways, than plain concrete, it has a high insulating value, good acoustical properties and has passed Underwriters' Laboratories tests for incombustibility. The material is also claimed not to rot, weaken with age, or appeal to a termite. It can be sawed, chopped or drilled. The panels also feature light weight, low cost and good light reflec-



Left: a continuous fabricating process used for Tectum panels. Below: typical roof installation



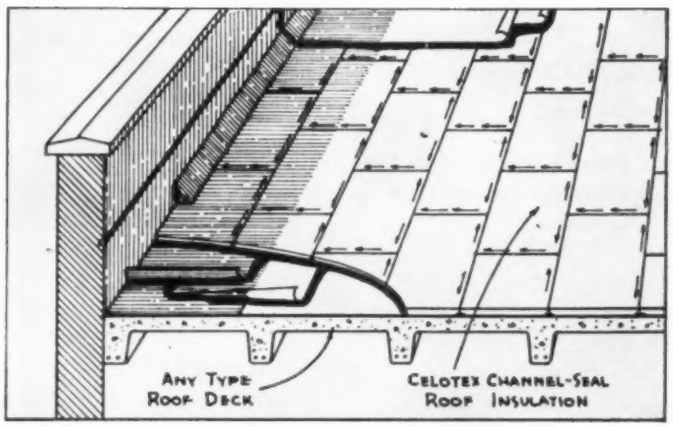
DEVELOPMENTS IN ROOFING MATERIALS

tivity, and may be used with its natural finish or painted. *The Tectum Corporation, Newark, Ohio.*

• The Celotex Corporation announces the addition of *Celotex Channel-Seal Roof Insulation* to its line of rigid insulation board products. Channel-Seal is made from cane fibreboard core stock and coated on all sides and edges with a special asphalt. A bevel on all four bottom edges provides an interlocking series of channels when the roof insulation boards are applied. The channels permit equalizing of air pressure between roof deck and built-up roof to reduce the incidence of blisters caused by local pressure build-up during hot weather. It is said the products have unusually high structural strength and resistance to compression; the fibreboard compresses 1 per cent of its thickness under a load of 700 lbs per sq ft. *The Celotex Corp., 101 Park Avenue, New York 17, N. Y.*

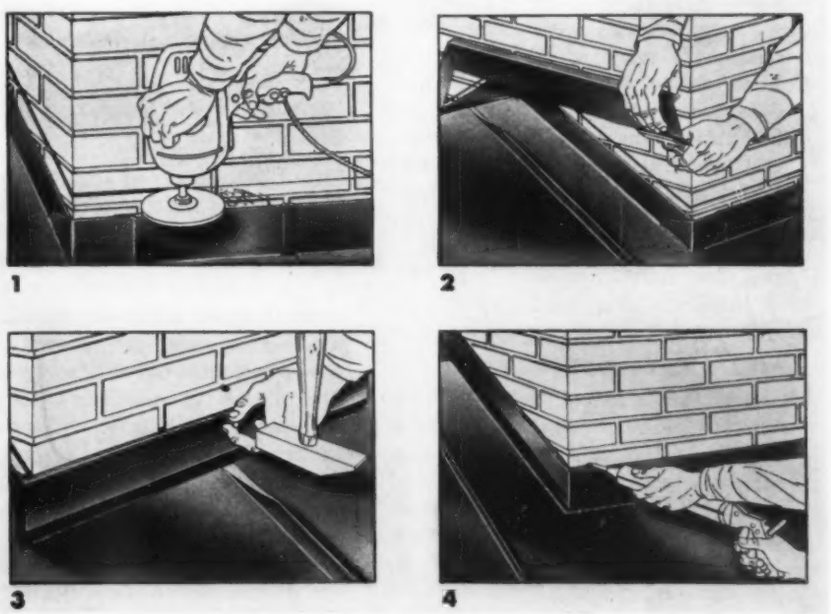
• Follansbee Steel Corporation has developed a technique to install continuous flashing of terne metal on chimneys, avoiding stepdowns and eliminating most of the seams. After the roofing pans have been turned up to form base flashing around the chimney, and corners closed off with corner patches, the roofer uses a ¼-in. grinding wheel in an electric drill to cut a ½-in. groove 4¼ in. above the roof line (Fig. 1). Cap flashing is fashioned to go around the chimney and cut and bent to go into the groove (Fig. 2). It is then wedged into place by masonry nails driven into the groove (Fig. 3). Finished flashing is caulked with a suitable compound (Fig. 4). This procedure is claimed to provide a secure and weatherproof flashing. *Follansbee Steel Corp., Gateway Center, Pittsburgh 30, Pa.*

(Continued on page 186)





Above: new roof insulation board features beveled edges (detail right) to equalize air pressure, reduce chance of roofing blisters



Above: recent chimney flashing technique uses a groove in chimney (Fig. 1) to hold bent flashing edges (Fig. 2) wedged in by nails (Fig. 3). Caulking is used to finish (Fig. 4)

TENNIS COURT CONSTRUCTION GUIDE



Pages from booklet on Laykold and Grasstex tennis courts

Laykold Tennis Courts, a 12-page, four-color booklet prepared for use by engineers and architects, contains detailed specifications, color photographs of typical installations and information concerning basic types and styles of Laykold and Grasstex courts. The new booklet includes sections on cost, maintenance, resurfacing and player acceptance. Booklet is available from *American Bitumuls & Asphalt Co., 200 Bush St., San Francisco, Calif.*

TELEVISION ANTENNA SYSTEM

Jerrold Catalog No. 601. Booklet describes the manufacturer's "Constant Level" master antenna system. Detailed data, including two charts, points out how this system can be utilized for low cost television reception in hotels, motels, institutions, apartment buildings and department stores. Pictures and text illustrate additional equipment. 4 pp., illus. *Jerrold Electronic Corp., 26th & Dickinson Sts., Philadelphia 46, Pa.*

* OIL AND GAS BURNERS

Petro Burners, Form 3048. New catalog of commercial-industrial automatic heating and power equipment includes schematic drawings, layouts of typical installations, and photographs of burners and installations. Specifications and detailed data on exclusive features of oil, gas, and combination oil-gasburners are given. 20 pp., illus. *Petro, 3170 W. 106 St., Cleveland 11, Ohio.*

Other product information in Sweet's Architectural file, 1953

NEW FURNITURE

The Dunbar Book of Modern Furniture. This booklet, bound in hard cover, contains 56 pages of text and illustrations, many in color. It consists of a commentary by the Dunbar furniture designer, Edward Wormley, on modern design, including examples by Bruer, Alto, and Eames, and a collection of Dunbar furniture ranging from occasional tables and chairs to complete bedroom sets, all from the Dunbar Centennial series. The booklet also illustrates the steps in furniture construction. Price, $1.00. 56 pp., illus. *Dunbar Furniture Corporation of Indiana, Berne, Indiana.*

* STEEL ROLLING DOORS

Cookson Rolling Doors, Bulletin No. 301. Illustrating the manufacturer's complete 1954 line of steel rolling service doors, "Servire" fire doors, grilles, aluminum rolling counter doors, and specialty doors, catalog features a series of charts designed to simplify selection of proper gauge and type of slats, guide type, power units and other components. Blueprints of 12 basic door types show all necessary architectural dimensions. Underwriters' Laboratory Label requirements are fully outlined. Complete architectural specifications are included. Numerous photographic illustrations show typical standard installations, as well as specially engineered doors with special sliding or hinged mullions, and doors constructed to conform to unusual floor angles. 12 pp. illus. *Cookson Co., 1525 Cortland Ave., San Francisco 10, Calif.*

WALLPAPER MURALS

How to Beautify Your Home With a Wallpaper Mural. Booklet gives suggestions for use of scenic wallpaper murals, pointing out their application in rooms furnished in various period styles. Contains 11 room settings and a complete selection of 16 scenics in full color, 22 room settings in black and white and a section on how to hang a wallpaper mural. Before-and-after illustrations show how murals can help disguise wall protrusions, broken wall spaces, narrow hallways and ceilings that are too low. Specifications are also included in the book. $1.00 per copy. 35 pp., illus. *James Seeman Studio, 134-12 Atlantic Ave., Richmond Hill 19, N. Y.*

* KITCHEN PLANNING

Kitchens That Sing. Booklet contains new ideas and arrangements for kitchens, including plans to combine kitchens and laundries efficiently, employing the Manufacturer's basic "Kitchen Maid" units. Two pages of suggested color combinations are included. 16 pp., illus., *Kitchen Maid Corporation, Andrews, Indiana.*

WATER HEATER

The Bryan Copper Tube Indirect Water Heater. Brochure has notes on basic applications, table of specifications and dimensions, drawings and a cutaway section. 5 pp., illus. *Bryan Steam Corp., Peru, Ind.*

(Continued on page 218)

SIMPLIFIED WALL FRAMING METHODS—3

Presented through the cooperation of the N.A.H.B. Research Institute

The following Time-Saver Standards pages continue the extracts, begun in the December issue, from "Trade Secrets Report No. 1" prepared for the National Association of Home Builders Research Institute under the direction of Leonard G. Haeger, with Lee Frankl, Consultant. The methods seek to reduce wall framing costs by the use of standard material sizes, pre-cutting, pre-assembly and production line erection techniques.

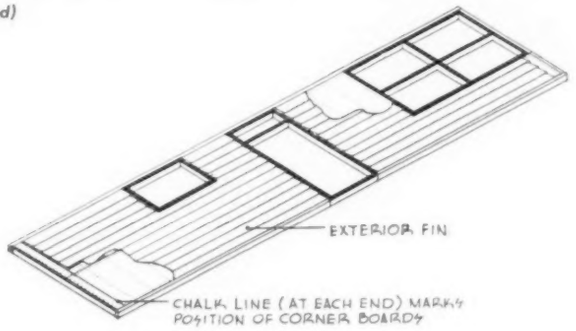
Planning

Production line methods require complete and careful planning. Management's decisions, as given to the building trades, should be fully detailed drawings and instructions to eliminate variations in procedure and/or construction by labor, as well as the many changes often made in pilot house design and construction.

An hour of detail drafting may save days of on the site labor. Completely detailed plans are necessary if management is to plan the purchase and scheduling of materials, and schedule labor so as to minimize interference of trades on the job. An obvious but often overlooked tool in planning is the grid sheet. The grid enables the draftsman to study and check dimensions easily so that standard sized materials may be specified, eliminating much unnecessary cutting and fitting. Details should be drawn in large scale. Isometrics are good, they are easy to read. Cutaways often are best to show details.

A Planned Order of Assembly Reduces Construction Time

(Continued)

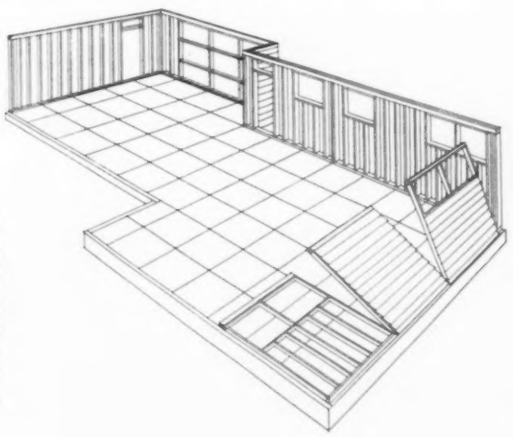


Place exterior finish (sheet material, siding, shakes, etc.). Where corners are used, mark their widths on sheathing, and nail finish material to this line. Apply corners after walls are tipped up and nailed in place.

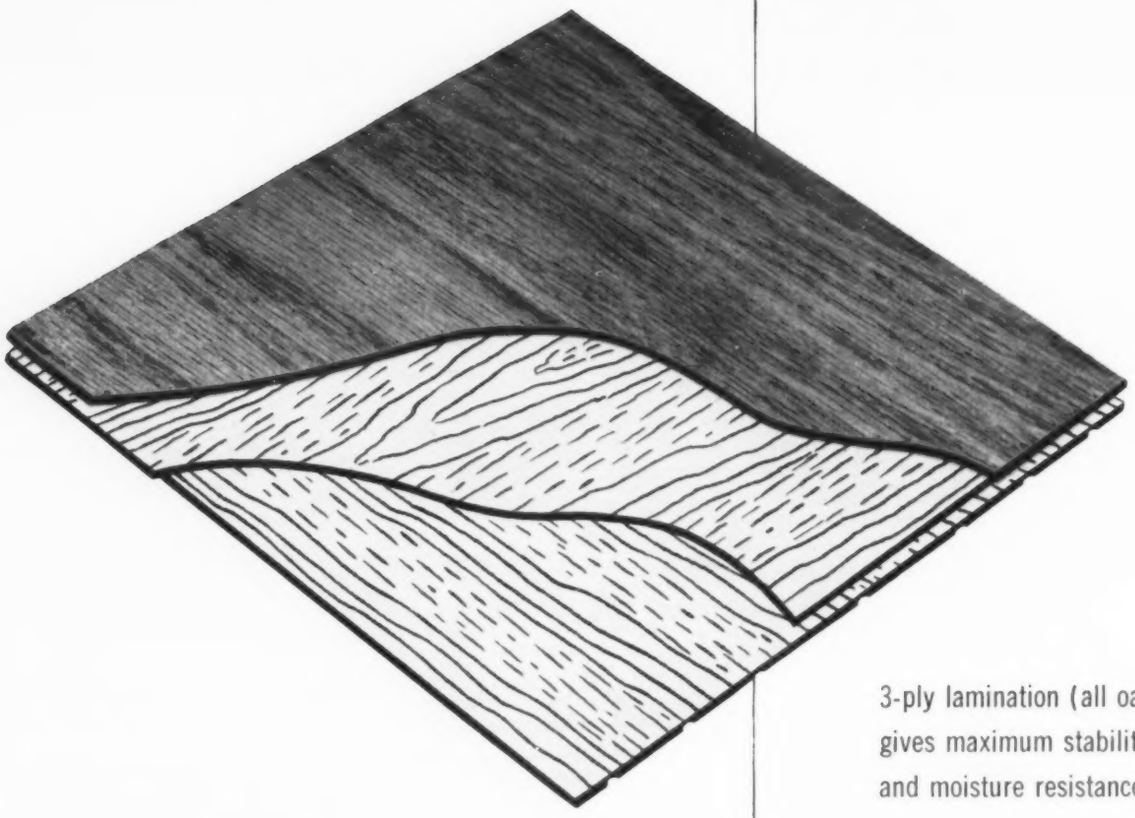
Where shingles are used it may be easier to leave end shingles off on each course. The end shingles are placed after tip-up is complete and all walls are nailed in place



Short end walls are placed first and tipped. They are supported by 2 by 4s (not shown). Rear wall is tipped into place, leveled, nailed to floor and braced. Front wall is likewise tipped up, plumbed, nailed and braced. Short walls are then plumbed, spiked to connecting walls and floor. Four men can handle walls up to 32 ft; six men are needed for walls up to 50 ft. A post and pulley rig makes it possible for two men to handle any size wall



Tip-up starts at any corner for panel section house. Two panels form a corner. One temporary brace for every second panel is ample. Two-man teams can work from each side of starting corner setting small panels. Spikes through floor plates should not be driven home until all panels are placed, then driven all the way. Use 1 by 6 in. diagonally to hold walls in square. Then plumb and brace all walls to inside floor and/or outside walls, whichever may be more convenient



3-ply lamination (all oak) gives maximum stability and moisture resistance

NEW OAK FLOORING FOR USE OVER CONCRETE

Bruce Laminated Oak Block



Designed for modern construction

- Lay in mastic directly over concrete
- No expansion joints or spaces needed
- Selected oak for beauty and durability
- Laminated under heat and pressure
- Toxik-treated to resist termite and beetle attack
- No membrane waterproofing required except where dampness is suspected
- Factory-finished for long wear, easy care
- Parquet pattern for contemporary style
- 9x9 in. blocks—½-in. thick
- One grade only—all faces practically clear

LOOK IN SWEET'S—WRITE FOR LITERATURE

E. L. BRUCE CO., MEMPHIS 1, TENN.

World's largest maker of hardwood floors

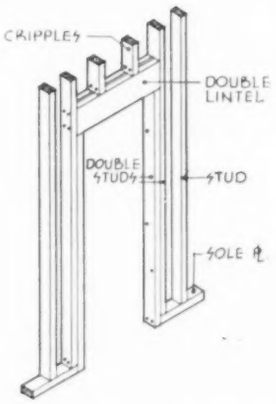
SIMPLIFIED WALL FRAMING METHODS—4

Presented through the cooperation of the N.A.H.B. Research Institute

Fastening Methods

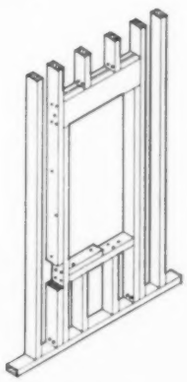
The illustrations of common nailing practices shown below have been taken from "Techniques of House Nailing," a publication of the Housing and Home Finance Agency (HHFA)

Door Openings



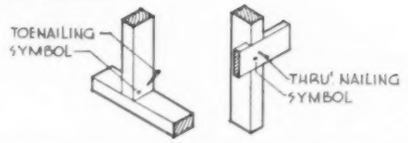
Cripples toenailed to each part of lintel with one 10d nail. Studs nailed to ends of each part of lintel with two 10d nails; double studs nailed together with 10d nails spaced 16 in. apart and staggered as shown. Studs alongside opening nailed into end of sole plate with two 10d nails

Window Openings



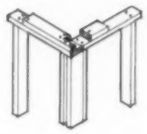
Cripples toenailed to each part of lintel with one 10d nail. Studs nailed to ends of each part of lintel with two 10d nails; double studs nailed together with 10d nails, spaced 16 in. apart, staggered as shown, and toenailed to sole plate with four 10d nails, two from each side. Lower part of sill member nailed to end of each stud below it with two 10d nails. Upper part of sill member nailed to lower with 10d nails, spaced 8 in., and staggered as shown. Studs alongside opening nailed to ends of each part of sill member with two 10d nails

Nailing Symbols



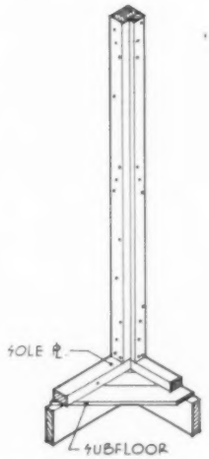
Open circles can represent toenailing in drawings, for extra clarity; closed circles, direct or through nailing

Top Plate



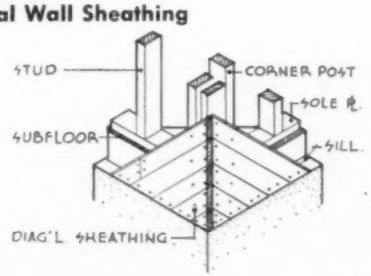
Lower part of plate nailed to each stud and corner post with two 16d nails, two near the ends of each piece; others staggered 16 in. apart

Corner Post



Studs nailed together with 10d nails staggered 12 in., and to filler block with one nail in each block. Studs are nailed to each filler block with three 10d nails. Corner post toenailed to sole plate with two 8d nails on each face

Diagonal Wall Sheathing



Use 8d nails for boards 8 in. and less in width. Use two nails at each end of board; two nails through each board into studs and three nails through each board into corner post assembly. For wider boards, an additional nail is used at each of these points.

Joints in adjacent lengths of sheathing boards should be separated by at least two stud spaces. If boards are tongued and grooved, end joints need not be made over studs



91% are p-k equipped*

***EAST SIDE, WEST SIDE, all around the town . . .** 91% of the buildings that make up the fabulous New York skyline are **p-k** equipped. This preference for **p-k** heat exchange equipment — including instantaneous hot water heaters, storage water heaters, pre-heaters, condensate coolers, converters, freon coolers — is understandable because **p-k** fully guarantees its equipment, backs it with 73 years of heat exchange experience.*

Contact p-k when your plans get under way.

the **Patterson-Kelley Co.,** inc.

1910 Burson Street, East Stroudsburg, Penn.

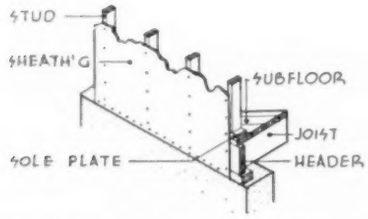
1907

101 Park Avenue, New York 17 • Railway Exchange Building, Chicago 4 • 1700 Walnut Street, Philadelphia 3 • 96-A Huntington Avenue, Boston 16 • and other principal cities.

SIMPLIFIED WALL FRAMING METHODS—5

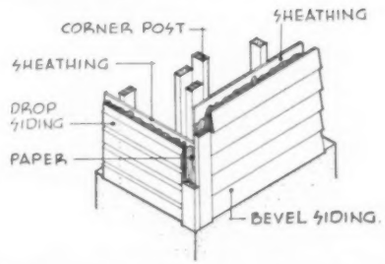
Presented through the cooperation of the N.A.H.B. Research Institute

Plywood Sheathing



Sheathing less than ½ in. thick is nailed with 6d nails spaced 5 in. apart along edges; 10 in. apart on intermediate framing members. Plywood ½ in., or more, thick and fiberboard wall sheathings are nailed with 8d nails and require the same spacing. Nails for fiberboards should be rust resistant. Panels are placed lengthwise across

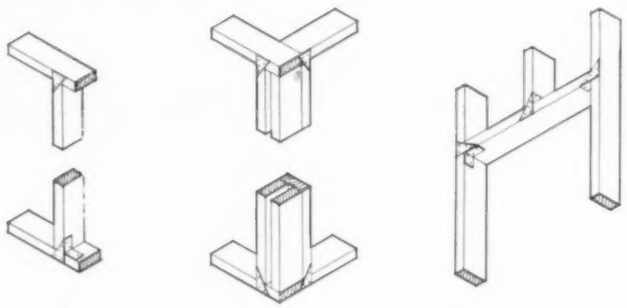
Bevel Siding and Drop Siding



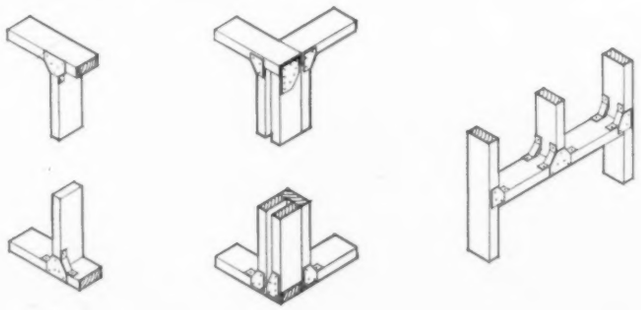
Are face-nailed to each stud; bevel siding with two 8d rust resistant casing nails driven through overlap of siding, then sheathing into each stud; drop siding with two 9d casing nails, one near top of flat surface and the other at bottom. When siding is applied in jig, corner boards are placed and nailed after tip-up. A poor practice is to allow siding to start and end at corners, then covered with corner boards. The spaces between corner boards and siding are likely to rot when water settles in these spaces

Special Fastening Device Applications Are Shown Below

Metal Grip Applications



Hurricane Brace Applications

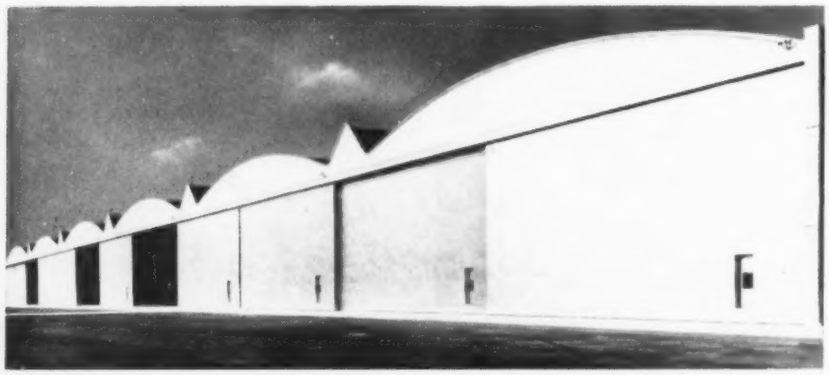


Screw type nails may obviously replace common and casing nails in all applications shown in this report. Although more costly, the smaller screw type nail and probably fewer nails and less labor will reduce the difference substantially

Common Nail		Screw Type Nail
Penny Size	Length	Suggested Length
6d	2″	1½″
8d	2½″	2″ or 2½″
10d	3″	2½″
16d	3½″	3″
20d	4″	3″ or 3½″

26,880 Square Feet

of Door Opening in 12 Leaves



. . . Another Byrne "First" in Hangar Door Construction

Over ⅔ of an acre in hangar door opening. That's what the Port of New York Authority ordered for a recently completed aircraft hangar space at New York International Airport. Here was a new problem—to build extremely wide, sliding and individually motorized hangar doors!

The solution can be noted in the picture above. Twelve steel leaves 70 feet wide and 32 feet high. Each leaf individually motorized and providing each hangar with a 140 foot opening. Finished leaves weigh over 20 tons, yet each opens at a rate of 60 feet per minute.

All hangar door openings present problems involving specialized technical skill. To assure a door that is structurally sound . . . easy and economical in operation . . . fast acting . . . dependable and weather tight . . . a competent and experienced manufacturer is the first requisite. Byrne engineers are qualified by 25 years of progressive development with doors of all kinds.



For your unusual closure problems in industrial and hangar doors of all types—turnover doors, vertical lift doors, crane entrance doors, canopy doors, sliding doors—Byrne offers unequaled solutions.

***FOR INFORMATION** regarding Byrne doors and facilities consult Sweet's Catalog or write direct for our brochure.*

BYRNE doors, inc.

Dept. r-2

1421 East 8 Mile Road, Ferndale, Detroit 20, Mich.

101 Park Ave., New York 17, N.Y.

Cafritz Bldg., Washington 6, D.C.

AEH PRODUCTS

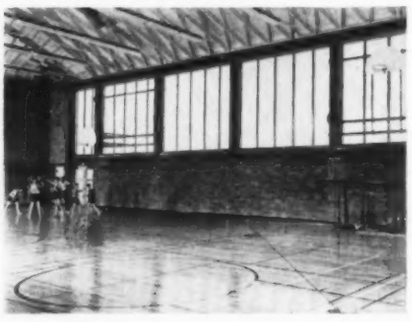
(Continued from page 177)

NEW PORTABLE WIDE SCREEN

For use with wide screen motion picture projection in the 16mm field, a portable Radiant *Curvex* Screen will be available in sizes from five ft to 20 ft wide. The screen is made with a highly reflective silver fabric, two and one half times as wide as it is high. The tightly woven, special treated fabric is on an anluminum framework which curves the screen to help increase the illusion of depth and to give better reflected light distribution throughout the area of observation. When the screen is not in use, the fabric may be rolled and the light weight frame folded for quick storage into a portable metal case. *Radiant Mfg. Corp., 2627 W. Roosevelt, Chicago, Ill.*

PLASTIC WINDOWS

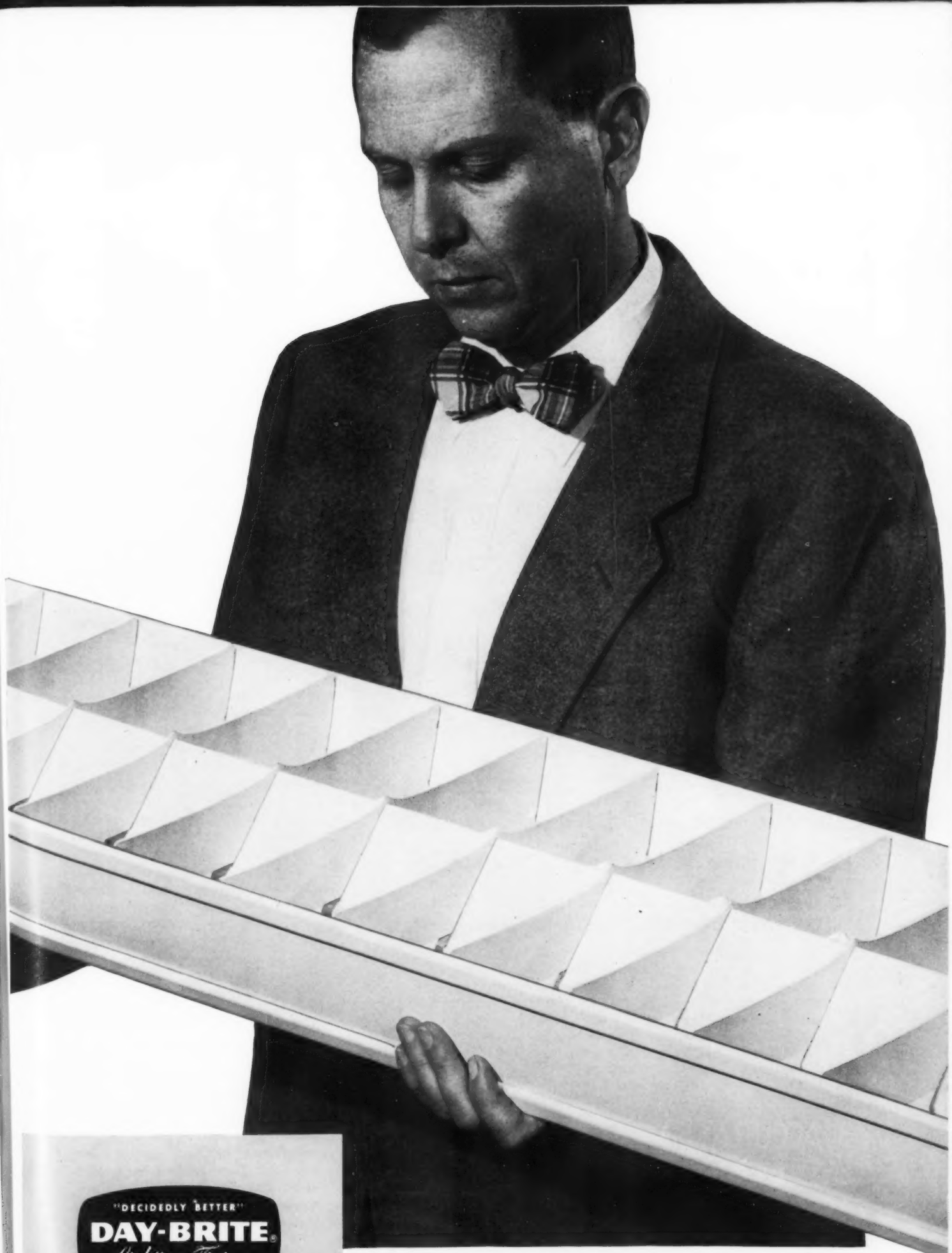
The new Inglewood Y.M.C.A. Building, which was dedicated November 15th, has *Plexolite* glass fiber reinforced plastic panels for the gymnasium windows. These shatterproof translucent panels can be used in many of same places as wire guards and wired-glass glazing, and provide a source of diffused light that does away completely with blinding sun-glare. One entire wall of the gymnasium room has been glazed



Shatterproof windows used in gym

with these panels. Basketball backstops and volleyball courts are within a few feet of this wall, and the ball frequently strikes the windows while in play, only to rebound harmlessly. The windows are also found in the locker-rooms where they have been fitted into the basic construction of the building in such a way as to eliminate framing entirely. *Plexolite Sales Company, 4223 W. Jefferson Blvd., Los Angeles, Calif.*

(Continued on page 190)

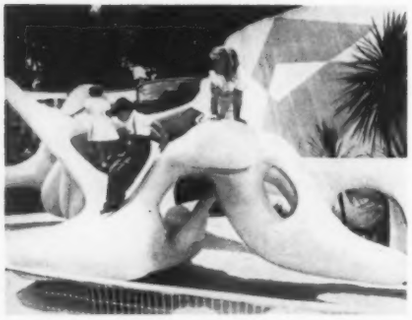


"DECIDEDLY BETTER"
DAY-BRITE®
Lighting Fixtures

Day-Brite Lighting, Inc., 5465 Bulwer Ave., St. Louis 7, Missouri.
In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.

AIA PRODUCTS

(*Continued from page 186*)







Examples of new play sculpture

WEATHER STRIPS FOR SLIDING DOORS



Smoother–Easier–Quieter

S-L-I-D-I-N-G D-O-O-R-S

WORK BEST WHEN FITTED WITH
"ACCURATE" DOOR SADDLES AND WEATHER STRIP

In planning this City house, the New York Architects, Sanders, Malsin & Reiman, provided wide open spaciousness with Sliding Doors. Full weather protection is assured by equipping the doors with "Accurate" metal saddles and metal weather stripping — precision built to make door operation easier, smoother, quieter. "Accurate" Sliding Door Equipment, backed by a half century of experience, is available to meet all conditions.

ACCURATE

For doors and windows of all types, "Accurate" Metal Weather Strip is unsurpassed. Write for working drawings, or if you prefer

ASK FOR ILLUSTRATED FOLDER

ACCURATE METAL WEATHER STRIP CO., Inc.
215 EAST 26th STREET, NEW YORK 10, N. Y.

PLAYGROUNDS WITH IMAGINATION

Playgrounds are an important recreational mecca for children — especially city children. *Creative Playthings, Inc.*, have been studying the problem of creating exciting, safe spaces to take the place of things so important to adventure and so often lacking in city playgrounds — trees to climb, rocks to jump from, caves to explore. They commissioned a group of architects, sculptors, landscape engineers and educators to design new dynamic play equipment, remodel and build "sculptured playgrounds." Among these experts were such international artists and architects as Isamu Noguchi, Egon Moller-Nielson, A. Vitalli and Robert Winston. Resource and consultation centers for the study have been set up in New York and Chicago.

Differing from the traditional flat playgrounds, these new playgrounds feature curved hollows serving play purposes in all seasons. They include such imaginative and important places as play mountains with built-in tunnels and caves, trampolines, wading pools and abstract-shaped sand boxes. There are huge concrete spheres, a fiberglas turtle with hollowed sculptured shell to form a tent, a metal climbing gym in the form of an amphitheater, and a see-saw in the shape of an airplane. *Creative Playthings, Inc., 5 University Pl., New York 3, N. Y.*

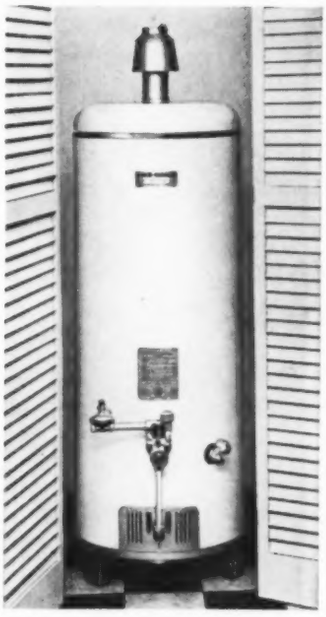
NOISE REDUCER

Fiberglas Noise-Stop baffles which absorb sound and reduce echoes, are manufactured by Owens-Corning Fiberglas Corp. These baffles have been installed with success in the Toledo, Ohio, Sports Arena, built in 1947, and in the Newark, Ohio, Y.M.C.A. natatorium.

(*Continued on page 194*)

much sense as Gas

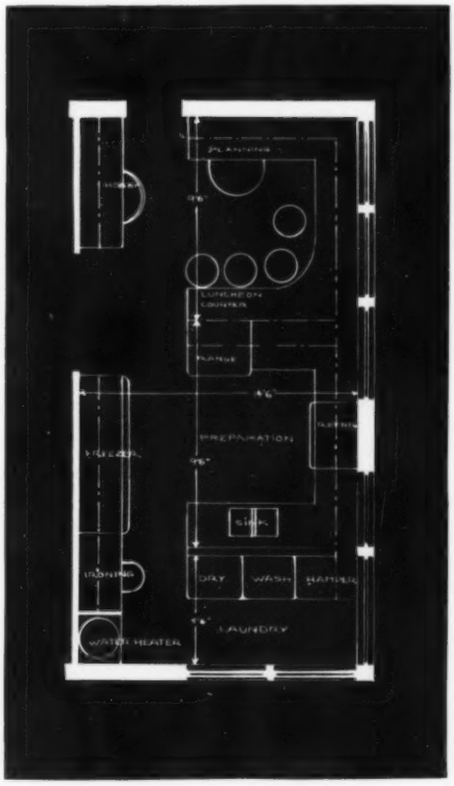
Today's kitchen is becoming the hub of the home. It cooks, it launders, it can even sew and mind the baby. When a woman spends a good portion of her day in this work center, she appreciates the coolness and cleanness, the silence and efficiency of Gas. Nothing whirs or chatters; even the refrigerator is completely noiseless. There's no waiting around for appliances to warm up; Gas is instantaneous. And there's a definite saving in installation costs, a definite saving in fuel costs. Is it any wonder that a New Freedom Gas Kitchen* is the easiest kitchen of all to sell?



Shown: **Ruud-Monel-Two-Temperature Laundry Master** automatic Gas water-heater.



Shown: **Hamilton** automatic Gas clothes dryer.



Your local Gas company will be happy to work with you on any problem.

There's an enormous preference for automatic Gas water-heaters—and no wonder! The recovery rate is actually 3 times faster. In other words, a 30-gallon tank run by Gas will give more service than an 80-gallon tank run by any other all-automatic fuel. But this same sort of preference is also being given the automatic Gas clothes dryer—by those in the best position to judge. A check of professional laundries reveals a 30-to-1 preference for Gas dryers—a tribute to their speed, efficiency and economy of operation. These are facts—and the kind of facts that make the strongest possible talking points to your home prospects.

AMERICAN GAS ASSOCIATION

Only Gas is so fast... so economical

GAS—the modern fuel for automatic cooking . . . refrigeration . . . water-heating . . . house-heating . . . air-conditioning . . . clothes-drying . . . incineration.

Which fits your needs?



You can be choosy in respect to door holders when you specify Russwin. There are four triple-grip-action types in the Russwin Line and one type has two distinct optional features. Consider the No. 600 for example. This is designed for use on light and medium weight interior single and double acting doors. There are models for use with butts, with offset pivots, with center hung pivots single acting and center hung pivots double acting. There's a free-acting type and a type that's a plain door stay.

When more than one type of product is important to installation or operation, you can count on the Russwin Line of Builders' Hardware for a selection. That makes the line attractive to architects and their clients. There's a sound reason for every product variation. Ask your distributor for complete details. You may be overlooking some worthwhile possibilities. Russell & Erwin Division, The American Hardware Corporation, New Britain, Conn.

SINCE 1839
RUSSWIN®
DISTINCTIVE HARDWARE

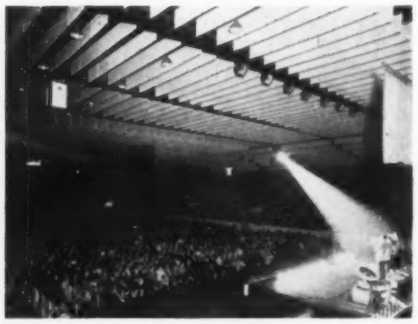
SURE RUSSWIN



"400" Closers | Overhead Door Holders | Miscellaneous Hardware | "Ten Strike" Cylinder locks

A-H PRODUCTS

(*Continued from page 190*)



Ceiling baffles reduce noise

In the Toledo Sports Arena the usual noise problem was aggravated by the hard surface of concrete and steel construction, which provided sounding boards for sound waves which, when "bouncing" around in an arena, garbled speech and music for arena audiences. The arena seating capacity ranges from 6,200 to 8,200, depending on the event.

The light weight baffles, installed by the arena's own maintenance crew, are fireproof. As the sound waves travel away from their source they strike the baffles, hung on wires strung under the ceiling, before being reflected back to the audience. Each baffle has a plastic film facing which transmits the sound energy into the fiberglas board by diaphragmatic action. Sound is then absorbed in the millions of tiny air spaces formed by the fibers of the glass. Thus, according to the manufacturer, the sound energy is dissipated to a considerable extent.

The Newark Y.M.C.A. natatorium is 41 by 79 ft with a 17-ft high ceiling. Generally speaking an indoor pool, where water sports of all kinds are underway among teenage swimmers, is a very noisy place. To combat this problem 149 baffles were hung. Shorter baffles were used to fill in at light drops and heater boxes and still maintain a uniform appearance along the ceiling.

Many acoustical ceilings over pools collect condensed moisture from the humid air and subsequently rot or deteriorate. The manufacturers claim the baffles will not absorb moisture nor will they rot or decay. They are light in weight and easy to clean. *Owens-Corning Fiberglas Corp., Nicholas Bldg., Toledo 1, Ohio.*

(*Continued on page 195*)

A-E-H PRODUCTS

(*Continued from page 194*)

NEW WINDOW UNITS

A new Curtis window unit provides greater freedom in planning window arrangements, as well as new flexibility in ventilation. Known as the "*Convertible*" window, the new unit represents a rather new concept in frame and sash construction methods and offers a great number of design possibilities. From one basic unit, it is possible to have right- or left-swing casements, awning windows, or swing-in hopper-type sash. A combination louvre unit, designed to be used in conjunction with a basic sash unit, further increases installation possibilities.

The window can be installed singly or in any desired combination of multiples, since its construction permits stacking in both width and height. More than 180 combinations are possible.



"Convertible" window units

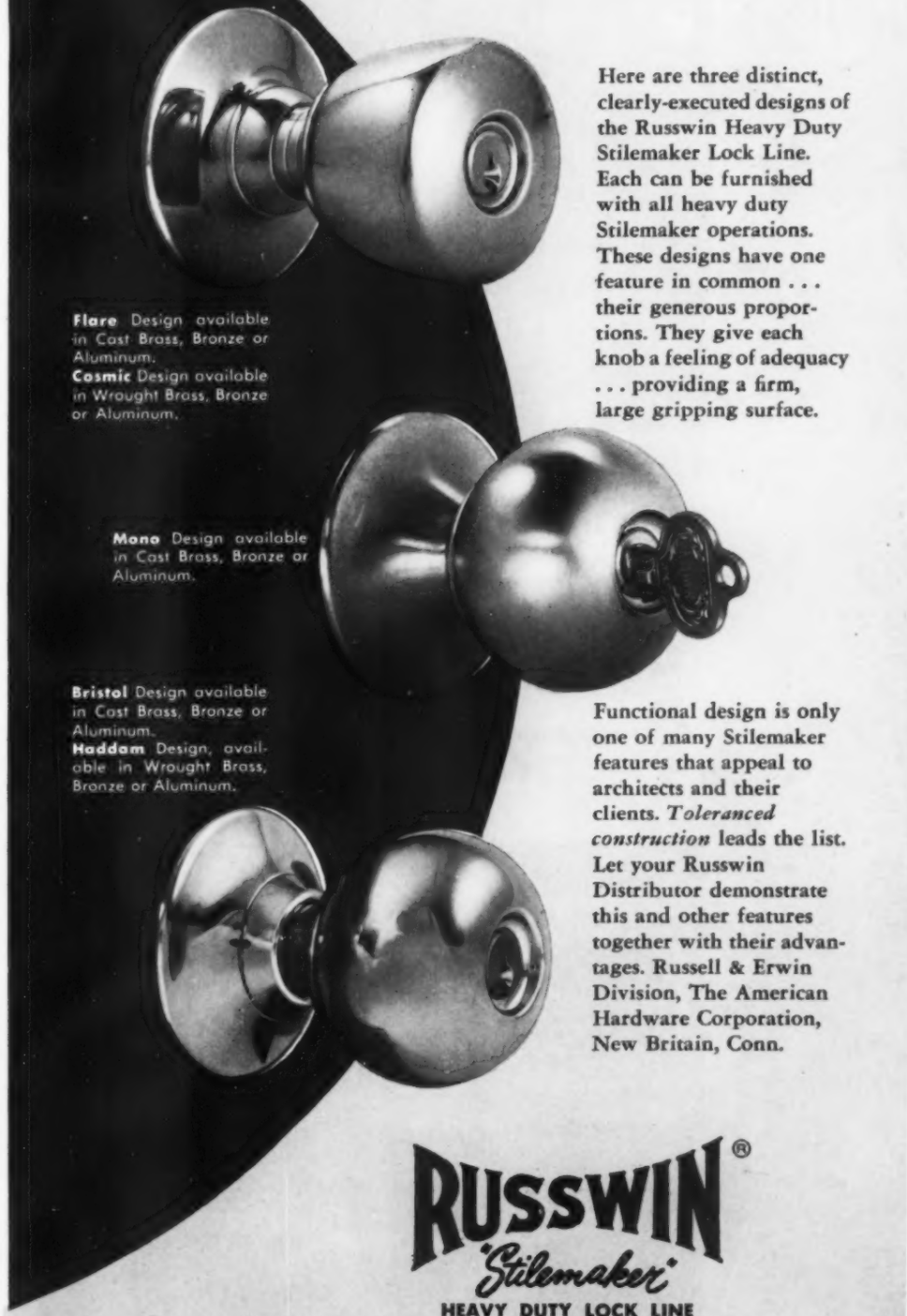
These units are factory assembled — basic frame setup, operating hardware, sash, screen and insulating light installed. The windows are preservative, water-repellent treated, and fully weather-stripped with spring-leaf weather-stripping. *Curtis Companies, Inc., Clinton, Iowa.*

HOME INCINERATOR

The automatic *Joseph Goder Disposall No. 4-SA* incinerator for small apartments and homes is being marketed by the Joseph Goder Incinerators company. The manufacturers claim this incinerator, which will consume three full bushels of waste at one time, has improved timing controls which may be

(*Continued on page 198*)

Take your Choice



Flare Design available in Cast Brass, Bronze or Aluminum.
Cosmic Design available in Wrought Brass, Bronze or Aluminum.

Mona Design available in Cast Brass, Bronze or Aluminum.

Bristol Design available in Cast Brass, Bronze or Aluminum.
Haddam Design, available in Wrought Brass, Bronze or Aluminum.

Here are three distinct, clearly-executed designs of the Russwin Heavy Duty Stilemaker Lock Line. Each can be furnished with all heavy duty Stilemaker operations. These designs have one feature in common . . . their generous proportions. They give each knob a feeling of adequacy . . . providing a firm, large gripping surface.

Functional design is only one of many Stilemaker features that appeal to architects and their clients. *Toleranced construction* leads the list. Let your Russwin Distributor demonstrate this and other features together with their advantages. Russell & Erwin Division, The American Hardware Corporation, New Britain, Conn.

RUSSWIN®
Stilemaker
HEAVY DUTY LOCK LINE

SURE RUSSWIN



Door Stops and Holders | Gravity Pivot Hinges | Door Pulls, Push Plates, etc. | Surface Door Closers | Fire Exit Bolts



Second floor cafeteria interior; attractive combination of Truscon Intermediate Projected Steel Windows with Truscon Picture Windows.



FIVE DIFFERENT TYPES OF TRUSCON STEEL W



Interesting corner detail shows Truscon Steel Picture Windows combined with Truscon Intermediate Combination Steel Windows. Adjacent wall sections fitted with Truscon Steel Double-Hung Windows.



St. Vincent's Home, Omaha, Nebr. Steele, Sandham and Steele, architects. Parsons Construction Co., contractors.



***Double-Hung Steel** Window: wide range of styles, sizes. Stainless steel weatherstripped.*



***Intermediate Projected** Window: wide variety of sizes, designs; projected and hinged ventilators.*



Intermediate Combination Window: Incorporates side-hinged casement and projected ventilator in one design.



Main entrance elevation of St. Vincent's Home. Truscon Intermediate Projected Windows combine with Truscon Picture Windows in second floor facade; Truscon Intermediate Steel Casements on ground floor.

WINDOWS SERVE NEW ST. VINCENT'S HOME

They've used a *variety* of Truscon Steel Windows to capture sun and sky for new St. Vincent's Home in Omaha.

These striking applications demonstrate how effectively you can achieve beautiful and functional architectural effects with your choice of Truscon units. How you can design for the daylighting you want. How Truscon windows can be adapted to your original ideas. How you can provide effective weather protection in all climates.

No one makes a greater variety of metal windows than Truscon. It's a good idea to keep current details of the big Truscon line handy to your desk or board. Your personal copy of the complete Truscon Window Catalog will do it. And, it may help spark an interesting idea. Simply ask any Truscon office, or write "window headquarters" in Youngstown. Details are handy in Sweet's File, too.



Intermediate Casement: Specially designed one-piece sections. Solid bronze hardware.



Picture Window: for use singly or in combination with other windows. 6' 0" maximum width.

TRUSCON
MARK OF MERIT
PRODUCTS

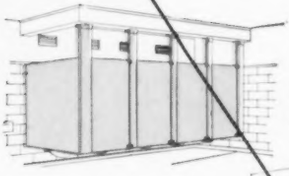
TRUSCON STEEL DIVISION
REPUBLIC STEEL
1062 ALBERT STREET • YOUNGSTOWN 1, OHIO
Export Department: Chrysler Building, New York, 17 N. Y.

TRUSCON® —a name you can **build** on



FIAT

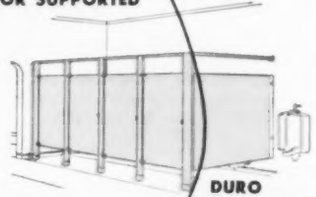
THE COMPLETE
LINE OF
toilet
compartments



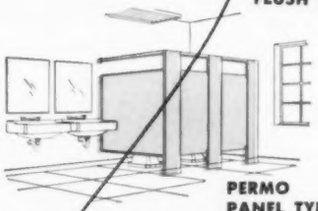
ARISTO
CEILING HUNG



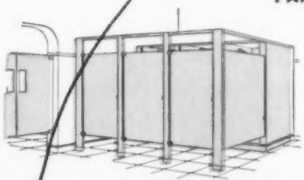
ARISTO
FLOOR SUPPORTED



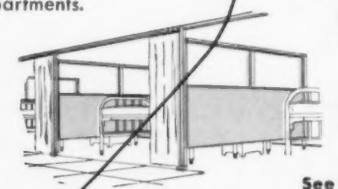
DURO
FLUSH TYPE



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PANEL TYPE



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and SHOWERS



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Please building owners and maintenance superintendents with FIAT quality compartments, and their beautiful, durable, easy-to-clean finishes.

Now, FIAT offers you a complete line, with adaptability to any type of installation. All FIAT compartments are made of the finest stretcher-leveled furniture steel, either cold rolled or bonderized-galvanized . . . finished with a baked-on prime coat and two coats of baked-on enamel. Available in white, choice of eight colors, or any two-color combination.

Check FIAT construction for the latest improvements. For greater strength, pilasters in the ARISTO line have *solid wood cores*. Other FIAT exclusive features are theft proof screws and concealed type fastenings. All chrome-plated hardware has been newly designed to complement the streamlined beauty of these compartments.

See SWEET'S $\frac{21b}{Fi}$ ARCHITECTURAL
. . . or write for CATALOG No. 530

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FIRST IN
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FIAT METAL MANUFACTURING COMPANY
THREE COMPLETE PLANTS—ECONOMY • CONVENIENCE • SERVICE

Long Island City 1
New York

Franklin Park, Ill.
(Chicago Suburb)

Los Angeles 63
California

In Canada: Porcelain and Metal Products, Ltd., Orillia, Ontario

AEH PRODUCTS

(*Continued from page 195*)



Small incinerators for residences

set at any point between ten minutes and two hours. A built-in safety device automatically shuts off the gas in case of flame failure.

Goder's 4-SA stands 43 in. high, 21 in. wide, 21 in. deep and has a standard 6-in. flue pipe and 38,000 BTU per hour. The door is 14 by 12 in. The unit weighs 400 lb and is reported to be refractory lined and heavily insulated for minimum heat loss. *Joseph Goder Incinerators, 5121 North Ravenswood, Chicago, Ill.*

RADIANT HEATING UNIT FOR SMALL HOMES

A new radiant panel heating unit, the *75-T*, is announced by the Raypak Co., Inc., manufacturers of the 130-T, plug-in boiler room for radiant heating installations. The 75-T was designed as a supplementary unit primarily for small houses. The manufacturer claims economy for the new unit which has a new modulating gas control made to the manufacturer's specifications, and reportedly operates quietly and efficiently.

Many features of the larger models are incorporated, including the modulating gas valve and limit control; condensate protection and safety gas control; integral copper fin-tubing heat exchanger; electric diaphragm main gas valve and precast, high efficiency fire box. All controls are concealed and protected.

The manufacturer states that the unit is adaptable to plastic pipe as well as copper tubing installations. *Raypak Co., Inc., El Monte, Calif.*

(*Continued on page 202*)


MODERN DOOR CONTROL BY LCN · CLOSERS CONCEALED IN FLOOR
RECREATION CENTER, HIGHLAND PARK, ILLINOIS
LCN CATALOG 11-E ON REQUEST OR SEE SWEET'S • LCN CLOSERS, INC., PRINCETON, ILLINOIS
Bertram A. Weber, Architect

4 times faster than hand lettering!

...that's how this office typist can do the work of 4 DRAFTSMEN!



With skilled draftsmen as scarce as they are, it's an enormous waste of time and money to assign them to a chore that can be done faster and better... *yes, better*... by your office typist.

She'll do a neater, sharper, more legible job on the Vari-Typer Lettering Machine... and she'll do it 4 to 5 times faster than hand lettering by your skilled draftsmen.

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Body copy produced on DSJ Model. Headlines photo-composed on the HEADLINER.

SEND COUPON FOR FREE LITERATURE.

AIA PRODUCTS

(*Continued from page 198*)

PLASTIC PIPING

The development and production of *Carlon "V,"* a new rigid, non-plasticized polyvinyl chloride plastic, was announced recently. The new pipe features resistance to a wide range of organic and inorganic chemicals. It is reported practically unaffected by all mineral acids, bases salts, chlorine, oil, grease, gasoline, alcohol and carbon tectrachloride. It is immune to rot, rust and electrolytic corrosion. It is especially suitable for numerous applications where chemical, atmospheric and electrolytic conditions create maximum maintenance costs in



the use of metal pipe. High dielectric strength, low water absorption and nonflammable characteristics make it especially useful as an electrical insulator and for conduit. It is also recommended for practically all types of chemical and food processing applications where low temperature and medium pressures are required. In addition, it can be used for duct work to expel highly corrosive fumes from processing solutions. The pipe is easily installed at low cost. *Carlon Products Corp., 10225 Meech Ave., Cleveland, Ohio.*

ROOM AIR CONDITIONERS

New 1954 room air conditioners were introduced at the 8th All-Industry Refrigeration and Air Conditioning Exposition in Cleveland. Two models are available from *Quiet Kool* — the *Compact* and the *Custom;* both in standard and deluxe.

The *Compact* series, which consists of the ⅓ hp and ½ hp units with "Install It Yourself" feature, fit windows

(*Continued on page 206*)

In 1953, over 500 building product advertisers (two-thirds of all advertisers using one or more of the three leading architectural magazines) put Architectural Record ahead of the field by more than 1,000 pages of advertising.

However, advertising leadership is but one clue to media value. Equally important to buyers of advertising are the *reasons* for the Record's leadership in advertising volume month after month, year after year:

1. Editorial content designed 100% for architects and engineers: Architectural Record is the one magazine edited in its entirety for the architects and engineers who control 80% of today's building dollars.

2. Editorial anticipation of market activity: the Record's editorial content is *timed* and *balanced* accurately by means of *Dodge Reports of building planning activity* to be of constant maximum value to architects and engineers in terms of the work on their boards . . . and to advertisers in terms of their market opportunities.

3. Editorial breadth: The Record's editorial service takes in the full range of building design—residential and non-residential, small and large—which constitutes the practice of architects and engineers.

4. Reader preference: architects and engineers have voted Architectural Record their preferred magazine in fifty out of fifty-six readership studies (sponsored by building product manufacturers and agencies) for which results are available—and in all sixteen such studies since January 1952.

5. Dodge-documented market coverage: Dodge Reports of building activity—available exclusively to Architectural Record—document the Record's coverage of the architects and engineers responsible for over 85% of all architect-designed building—residential and non-residential, small and large.

6. Largest total architect and engineer circulation: Architectural Record serves the largest audience of architects and engineers ever assembled by a technical magazine.

7. Lowest cost: you reach the largest architect and engineer audience in Architectural Record at the lowest cost per page per thousand.

You will be *right* with the *Record* in 1954.

F.W. DODGE CORPORATION

Architectural Record "workbook of the active architect and engineer"

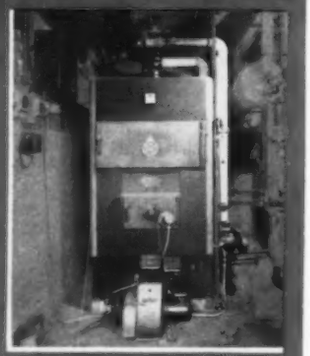
119 West 40th St., New York 18, N. Y. OXford 5-3000


Tom Sawyer Motor Inn, Elmira, N.Y.

NATIONAL



Two automatically controlled, oil-fired National Steel Boilers (in each of the Tom Sawyer Motor Inns) provide heat and year-round domestic hot water for up to 100 guests a night at Elmira, N.Y.; for up to 220 guests daily at Albany, N.Y.



Architect: Benjamin A. Crowther, Elmira, N.Y. General Contractor: Decker Construction Corp., Elmira, N.Y. Wholesaler: LeValley, MacLeod, Inc., Elmira. Heating Contractors — Albany: A. J. Eckert Co.; Elmira: C. R. Evans Corp.

STEEL BOILERS

Source of year-round comfort for guests of TOM SAWYER MOTOR INNS

Twin combination National hot water central heating plants are the heart of one of the most modern and well-engineered motel installations in the country today.

"NOT A CENT FOR MAINTENANCE . . . NO TROUBLE . . . REASONABLE FUEL BILLS,"

says Col. James P. Schwartz, President

These boilers have been in continuous operation with no maintenance cost for five years at Elmira . . . and since 1951 at Albany.

SERVE DUAL PURPOSE

The National Boilers provide hot water for circulating through radiant panels for heating comfort . . . and also supply domestic hot water for guest use.

For further information on National Steel Boilers, ask for Bulletins 506, 507, 527-AR-12.

THE NATIONAL RADIATOR COMPANY,
JOHNSTOWN, PA.


Tom Sawyer Motor Inn, Albany, N.Y.

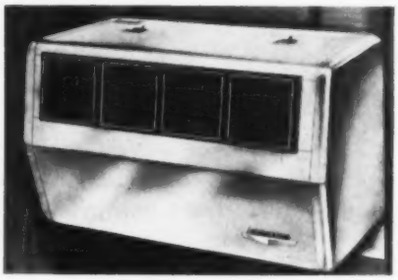
For Real Heating Comfort go NATIONAL

BRANCH OFFICES:
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Complete Heating for Homes, Commercial Buildings and Industry since 1894.

A-H PRODUCTS

(Continued from page 202)



24½ to 36 in. wide, and can be fitted into casement windows without cutting the sash through the use of a special kit which is available at a small additional cost. The *Compact* models are 24 in. wide, 20 in. deep and 15⅛ in. high, and they project 12⅛ in. into the room and 7⅞ in. outside the window.

The *Custom* series consists of the ½ hp, ¾ hp and 1 hp conditioners. The controls are color-coded, push button type and are grouped behind the left grille, which is hinged so that it swings downward. The controls are sealed when they are not needed by swinging the left grille into place. Physical size of the *Custom* series is 26⅝ in. wide, 28⅜ in. deep and 15½ in. high, and they project 12⅜ in. into the room, and 16 in. outside the window. *Quiet Kool Room Air Conditioners Corp., 46 Oliver St., Newark, N. J.*

ACOUSTICAL MATERIAL

A new perforation design in Armstrong's *Cushiontone*, perforated fiber acoustical material has recently been made available. Known as "Full Random," the material features non-directional perforations, spaced at random over the face of the tile, offering architects and interior designers a low-cost acoustical treatment that can be used as a change from the straight-line perforation design. Available in 12- by 12-in. tiles, and in thicknesses either ½ or ¾ in., the newly designed tile has narrow bevels, with minimum border between the perforations and bevel, providing an almost unbroken ceiling effect. It is reported that the factory-painted white surface reflects 78 per cent of the light that strikes it. *Armstrong Cork Co., Lancaster, Pa.*

(Continued on page 208)

THE MURRY AND LEONIE GUGGENHEIM DENTAL CLINIC, N. Y. C.

Office of YORK & SAWYER · Architects · KIFF, COLEAN, VOSS & SOUDER. Gen. Cont.: CAULDWELL-WINDGATE, both of New York City. Sheet Metal Cont.: SOBEL & KRAUS, Bronx, N. Y. Dist.: SERVICE METAL & ROOFING SUPPLY CORP., Brooklyn, N. Y.



Another case of COPPER where it counts!



10,000 LBS. OF REVERE SHEET COPPER were used for the standing seam roof, valleys, gutters and base flashing. Note expansion joints in gutters 32 feet apart.



PREFABRICATED PANS of 16 oz. Revere Copper being fastened into place with cleats, using two nails per cleat. Pans are 17¼" wide by 8' long and attached top and bottom with loose lock cross seams.

When the original roof was put on the Guggenheim Clinic a non-metallic material was used but the stepped cap flashing was copper. Wear got to the roof and its replacement was necessary. It is interesting to note that in replacing the roof with non-rusting, enduring Revere Copper the Architects and Contractor examined the copper cap flashing and found it in such splendid condition that it was feasible to leave it in place to continue its efficient job of protection for many more years.

Not only was money saved for the client but it is a tribute to the lasting qualities of copper and the flexibility of this metal in building construction that it could be thus utilized.

Copper is the metal to keep you out of trouble. You don't take chances with copper. Its enduring qualities have been proven for centuries.

There is not another metal or alloy that has all of the desirable construction characteristics of copper. Sheet metal contractors prefer to work with it for it is readily cut and formed into any shape. Copper solders beautifully and is as modern as the most modernly designed structure.

Be safe, be sure, write "Revere Copper" into your specs. A Revere Distributor near you stocks Revere Sheet, Strip or Roll Copper for flashing and roofing. Ask him about Revere Keystone Thru-Wall Flashing* and the new Revere-Keystone 2-Piece Cap Flashing.** And, if you have technical problems, he will put you in touch with Revere's Technical Advisory Service.

*Patented
**Patent Pending

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, N.Y.

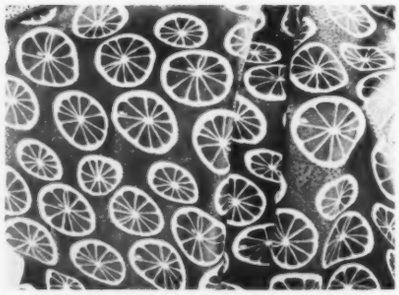
• • •

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.—Sales Offices in Principal Cities, Distributors Everywhere

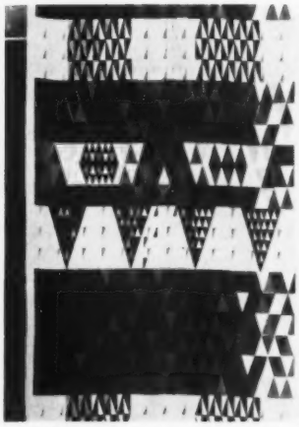
SEE "MEET THE PRESS" ON NBC TELEVISION, SUNDAYS

AIA PRODUCTS

(*Continued from page 206*)



"Citronnade" by J. Iribe



"Diamonds" by A. Herbert

SIX NEW FABRIC DESIGNS

Five new handprints and a new handwoven silk from India have been added to the Knoll international collection of textiles. The new patterns represent varying scales and color combinations.

"*Geecha*" is a handwoven, handspun natural silk, sold in 4-, 8- and 12-yd lengths, 50 in. wide. The approximate retail price is $18.00 per yard.

"*Citronnade*" is a hand print cotton of lemon circles on a finely textured background. The designer, Jaqueline Iribe of France, has combined yellow, light gray, green or blue with black and white in six different schemes, K1055–K1060. The material is 50 in. wide and sells for approximately $5.25 per yard.

"*Pythagoras*" by Sven Marlelius, Swedish architect, is a natural linen with a pattern of triangles in a multiplicity of colors. With a tall pattern repeat of 69 in., there are approximately 11 colors in each combination: K1050 Spectrum Blue; K1051 Spectrum Red; K1052 Spectrum Yellow. Each of these combinations is set off with a dark gray and white accent band. The approximate retail selling price is $12.75 per yard, 52 in. wide.

"*Lazy Lines*" by Astrid Sampe of Sweden consists of colored vertical stripes interrupted with vertical linear stripes and diamonds on a heavy imported linen. This fabric comes in a variety of color schemes K1094–K1098, all on a white background. The 31-in. pattern repeat is on 52-in. wide material. Approximate retail price, $7.95 per yard.

"*Shogi*", inspired by Japanese architecture, is a design of broken horizontal and vertical stripes, handprinted on linen. The designer, Dennis Lennon, of England, has combined black on white K1085, black on natural K1086, black on yellow K1087, black on paprika red K1088, and white on charcoal K1089. Pattern repeat 12 in., on 50-in. wide. Approximate retail price $6.30 per yard.

"*Diamonds*" by Albert Herbert of U. S. A. is a pattern of close-together tones on a linen background: K1077 pine and emerald green; K1078 red and orange; K1079 navy and black; K1080 tan and hazel brown; K1076 turquoise and blue; K1081 yellow and citron; K1082 charcoal and light gray. The material is 50-in. wide, retails at approximately $6.00 per yard, 5-in. pattern repeat. *Knoll Assoc., Inc., 575 Madison Ave., New York 22, N. Y.*

(*Continued on page 212*)



Marlo Helps to Cool Ford's Giant "Birthday Cake"



Thanks to the magic of modern air conditioning, visitors to the famous Ford Rotunda at Dearborn, Mich., enjoy complete comfort — a comfort that Marlo is proud to have a part in providing.

Two huge Marlo 100-ton cooling towers, concealed on the roof, play an important role in the air conditioning system which keeps this giant "birthday cake" cool and comfortable even in the hottest summer.

Water-saving, money-saving Marlo cooling towers are available in capacities from 20 tons to 100 tons or more. For residential and light commercial use, Marlo produces the 2-16 ton "Thrifti-Tower".

Assoc. Engineers & Architects: Laucomer-Manser & H. Sanborn Brown, Detroit
General Contractors: Walter L. Couse & Co., Detroit
Mechanical & Electrical Engineers: Clarence L. Toonder & Associates, Detroit
Air Conditioning & Refrigeration Contractors: Detroit Ice Machine Co.
Industrial Piping: Page Plumbing & Heating Co., River Rouge

WRITE to Marlo today for complete information on efficient, economical cooling towers for every application.

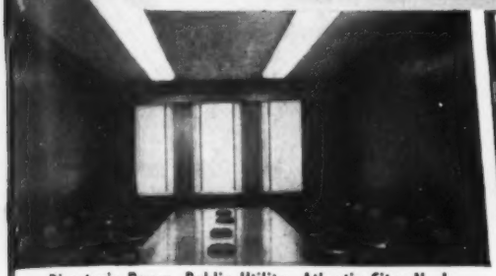
See our bulletin in Sweet's Catalog

Marlo COIL COMPANY

Manufacturers of COOLING TOWERS • EVAPORATIVE CONDENSERS • INDUSTRIAL COOLERS • AIR CONDITIONING UNITS • MULTI-ZONE UNITS • BLAST HEATING & COOLING COILS

Saint Louis 10, Missouri

HOLOPHANE NO. 9300 Sets New Lighting Standards in a Wide Variety of Modern Interiors . . .



Director's Room, Public Utility, Atlantic City, N. J.



Marlowe Central Station, West Virginia



Across the country . . . wherever they have been installed . . . No. 9300 Surface-Attached HOLOFLUX* units have earned unanimous approval for their lighting superiority . . . Their shallow depth creates the modern, distinctive look of recessed units, without the cost of roughing-in. Enclosed prismatic construction assures greatest fluorescent light output with complete absence of cumulative glare, even in continuous runs . . . As the photographs herewith indicate, HOLOFLUX units are ideal for an almost unlimited range of applications. Architects and engineers are invited to consult Holophane engineers, without obligation.



Plant Offices, Irvington, N. J.



Tonsorial Parlor, Philadelphia, Pa.



Foyer, Insurance Company, Houston, Tex.



College Library, Detroit, Michigan





Classroom, Elementary School, Fairhaven, Mass.



Savings & Loan Co., Anderson, Ind.

Features of HOLOFLUX Units

- Low Brightness
- High Output
- Easy Installation
- Distinguished Appearance
- Continuous Installation
- Minimum Depreciation

Write for latest Engineering Data on HOLOFLUX Units



Bank Office, Phoenix, Arizona



Automobile Showroom, Buffalo, N. Y.

HOLOPHANE COMPANY, INC.

Lighting Authorities Since 1898 • 342 MADISON AVENUE, NEW YORK 17, N.Y.

THE HOLOPHANE COMPANY, LTD., THE QUEENSWAY, TORONTO 14, ONTARIO

*®

SPLASHED WITH OIL . . .



ALGRIP

still remains Non-Slip!



It occurs every day. ALGRIP Abrasive Rolled Steel Floor Plate is installed—then insurance premiums tumble—slipping accidents stop.

The reason is tough steel floor plate *impregnated uniformly* with abrasive "grinding wheel" grain. Result: A truly non-skid surface that *stays* slip-proof, because wear only exposes new particles . . . a "safety extra" offered only by ALGRIP.

If your accident insurance premiums are too high, let ALGRIP bring them down. Mail this coupon today for the complete ALGRIP story. There's no cost or obligation.



Underwriters' Laboratories approved for safety. Note depth and uniformity of abrasive grain.

A.W. ALGRIP Abrasive Rolled Steel Floor Plate

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

Please send Booklet AL-19 on how ALGRIP can cut costs and accidents:

NAME_____ TITLE_____

ADDRESS_____

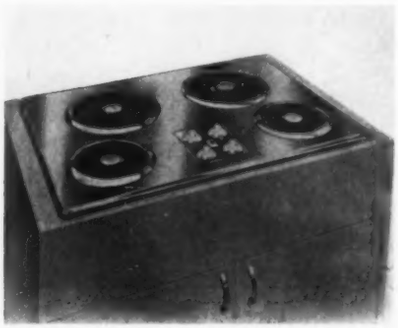
CITY_____ ZONE_____ STATE_____

AIA PRODUCTS

(*Continued from page 208*)

NEW COOKING TOP DESIGNS

Thermador has recently added two new model cooking tops to its "Bilt-in" electric range line, bringing the total selection of different tops to seven. In identical sizes of 30-in. long by 21¾-in. wide, the two new cooking tops have been designed specifically



for maximum facilities within limited areas. They are constructed of stainless steel, and are available with two arrangements: Su-4C with three "Thermo-Kleen" surface units and deep well cooker; and Su-4D with four surface units. *Thermador Electrical Mfg. Co., Los Angeles 22, Calif.*

MULTI-PURPOSE CLAMPS

The *Tube-Strut* clamp is reportedly finding increasing use as a low cost method of constructing storage and utility racks capable of carrying great loads in complete safety. Tubular structures for any requirements are quickly erected using standard tubing or pipe with the clamp system without threading or welding and without skilled help or special tools. The patented *Tube-Strut* coupler performs all structural functions in a single unit. Any number of tubes may be joined at right or oblique angles as desired. There are no limitations in positioning the coupler on the pipe. Materials and quantities of various fittings do not have to be detailed and calculated in advance.

These clamps have an outstanding gripping strength of 2½ tons on 1-in. pipe, plus structural rigidity provided by the clamp design which eliminates need for extra bracing. The multi-pur-

(*Continued on page 214*)

Tests like these insure the quality of Kentile asphalt tile

A.I.A. 23-G

Because of scientific tests like these, every tile shipped has precision-straight edges and true right-angle corners. That means installation ease and economy. Further, Kentile's manufacturing techniques and tested ingredients mean that every tile is tougher, more durable, easier to clean...with lasting brilliance of color and uniformity of marbleization. But, get full details when you consult the Kentile Flooring Contractor. He's listed under FLOORS in the Classified Telephone Directory.

Specifications and Technical Data

INSTALLATION: Over any smooth, firm interior surface free from spring, oil, grease and foreign matter...over metal, wood, plywood, concrete, radiant heated concrete slab, concrete in contact with the earth; on or below grade.

THICKNESSES: Kentile is available in two gauges: 1/8" for residential and most commercial uses—3/16" for industrial use and where extra-heavy duty flooring is needed.

SIZES: Standard tile size is 9" x 9".

SPECIAL KENTILE: Greaseproof asphalt tile for industrial uses in a wide range of marbleized colors—extremely resistant to petroleum and cooking greases and oils, alcohols, alkalis and most acid solutions.

Approximate Installed Prices (per sq. ft.)

	1/8" Gauge	3/16" Gauge
KENTILE: A Colors	20¢	25¢
KENTILE: B Colors	25¢	30¢
KENTILE: C Colors	30¢	40¢
KENTILE: D Colors	35¢	40¢
SPECIAL KENTILE	40¢	50¢

These costs are based on a minimum area of 1,000 sq. ft. over concrete. Color groupings range from Group "A," the darkest solid colors...to Group "D," the lightest marbleized colors. Special Kentile is available in Regular and DeLuxe Colors.



The ability of Kentile's top-grade raw materials to flow properly during calendering is measured by a *Mooney Viscometer.*



This *electronic Color-Eye* records the shade of each Kentile color to help preserve uniformity of tone from one run to the next.



Trained technicians using *Special Gauges* check the length and width of Kentile to tolerances less than a thousandth of an inch.



Surface smoothness is checked by chemists who select tiles from every run and examine them under *Binocular Microscopes.*

Samples and literature available on request from nearest Kentile, Inc. office listed below. Ask about Kentile for WALL use, too.

KENTILE®

The Asphalt Tile of Enduring Beauty

Kentile is the floor your clients know and want...

BACKED BY MORE FULL-COLOR ADVERTISING THAN ANY OTHER ASPHALT TILE FLOOR

KENTILE • SPECIAL KENTILE • KENCORK • KENRUBBER • KENFLEX

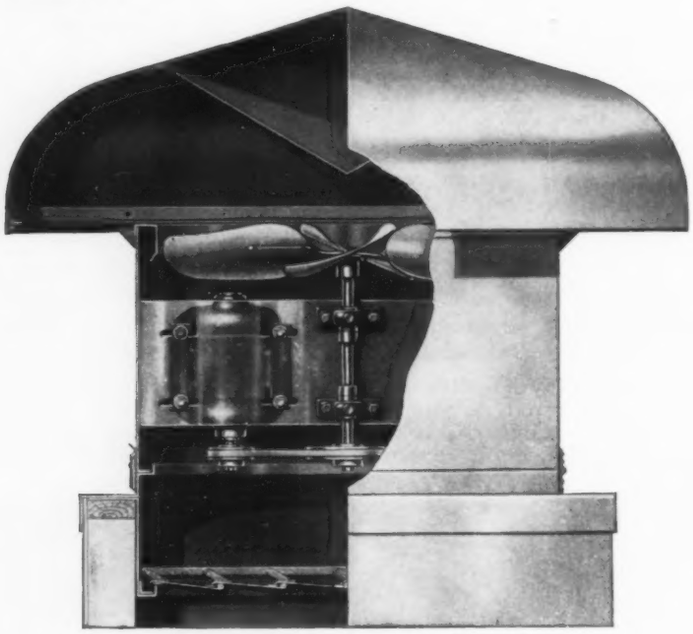
*Reg. U. S. Pat. Off.

KENTILE, INC., 58 Second Avenue, Brooklyn 15, New York • 350 Fifth Avenue, New York 1, New York • 705 Architects Building, 17th and Sansom Streets, Philadelphia 3, Pennsylvania • 1211 NBC Building, Cleveland 14, Ohio • 900 Peachtree Street N. E., Atlanta 5, Georgia 2020 Walnut Street, Kansas City 8, Missouri • 4532 So. Kolin Avenue, Chicago 32, Illinois • 4501 Santa Fe Avenue, Los Angeles 58, California



GET ALL THE FACTS ABOUT
THE HIGHLY EFFICIENT

BURT "LOW TYPE" FAN VENTILATOR



Since its announcement a few years ago, the Burt "Low Type" has become one of the most popular ventilators for industrial and commercial use. The result of half a century of ventilating know-how, its features include

MODERN ENGINEERING DESIGN
Burt Engineers have combined high capacity, positive weather-proofing and high efficiency with economical operation.

INCONSPICUOUS IN USE
Its low height and modern functional outline meet architectural and building management requirements for inconspicuous appearance.

EASILY INSTALLED AND SERVICED
Airshaft base is designed to fit over a standard square curb with ample overhang for flashing. All internal parts are easily accessible for maintenance.

VERSATILE
Operates with equal efficiency as an exhaust fan ventilator or as a fresh air supply unit—on direct or belt drive.

WIDE RANGE OF SIZES
Available with fans from 12″ to 60″ in diameter—from 1/20 H.P. to 7½ H.P.

SEE SWEET'S OR WRITE FOR BULLETIN SPV-16

FAN & GRAVITY VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company
48 East South Street, Akron 11, Ohio

A|E PRODUCTS

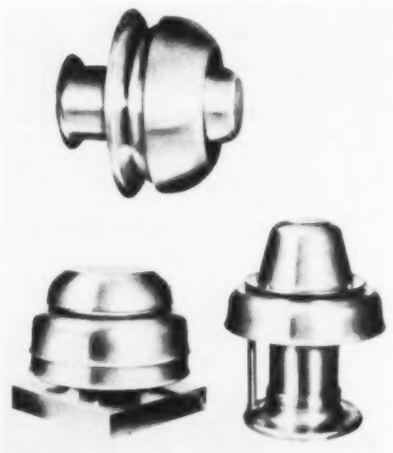
(*Continued from page 208*)

pose clamps are cleanly finished and are free of sharp edges. They are available in sizes for ½-in., 1-in. and 1½-in. nominal pipe. *Tubular Structures Corp. of America, 2960 Marsh St., Los Angeles 39, Calif.*

THREE NEW VENTILATORS

Three new low-cost spun aluminum blower ventilators for residential or commercial use are being sold as a complete assembly.

Easy to install, the *Model W* wall exhaust ventilator is adjustable to any wall thickness from 3⅛ in. to 8 in. maximum, or can be fitted to a short 6 in. or 8 in. duct. The motor is mounted in a separate compartment from the air stream. It is available in 7 in., 9 in. and 10 in. sizes. Comes complete with automatic back draft damper and intake grilles. Furnished for 110 volt operation.



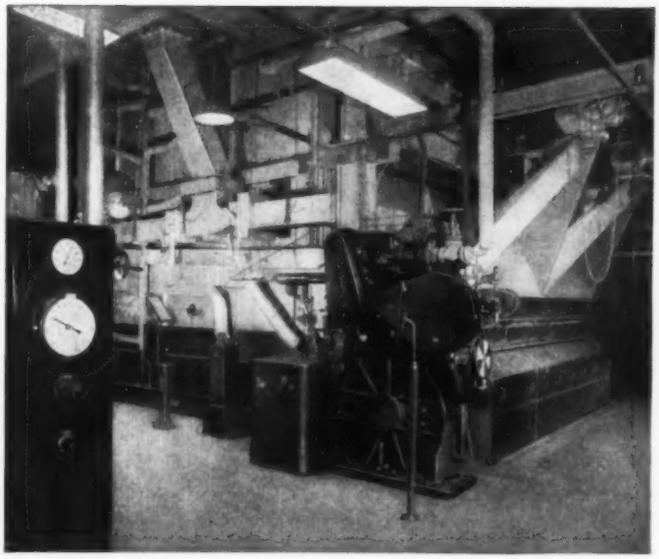
Similar in construction, the compact Model R roof ventilator is particularly well suited for bathroom, shower room and public toilet ventilation. It is manufactured in 7 in., 9 in. and 10 in. sizes, with a collar to fit over a standard 6 in. or 8 in. duct leading to the roof.

Low over all height is outstanding feature of the largest model, BV. It comes with a 9 in., 10 in., 12 in. or 14 in. impeller. It is available in single phase, 110 volt, 2-speed; in 220 volt, 1-speed; or three phase, 1-speed. It moves air fast, with little noise. It can be furnished with or without automatic back draft dampers. *Lored Cook Co., Berea, Ohio.*

(*Continued on page 216*)



NATIONAL CASH REGISTER SAVES $70,000 A YEAR WITH MODERN COAL EQUIPMENT!



One of the two new boilers used to supply base steam loads for NCR's plant. Older pulverized coal boilers handle swings.

NCR recently installed two modern, stoker-fired boilers in their Dayton, Ohio plant. They supply the major part of the steam used in generating power for 28 factory buildings and heat for nearly 72 acres of floor space. The savings made have convinced NCR that for high efficiency and low costs, you can't beat an up-to-date bituminous coal-fired installation.

Big Loads! Loads run up to 300,000 lbs. per hour. Annual coal consumption is about 60,000 tons.

No smoking allowed! Located near a residential area with strict control regulations, National uses dust collectors and smoke recorders to make coal clean and convenient.

Additional case histories, showing how other types of plants have modernized and saved money with coal, are available upon request.

Before you build a new plant or remodel your present one, let a consulting engineer show you how a modern bituminous coal installation—tailored to your needs—can save you money.

With modern coal-burning equipment, you can save from 10% to 40% on steam costs. Automatic coal- and ash-handling systems can cut your labor costs to a minimum.

You're set for the future, too, with coal. Coal reserves are virtually inexhaustible. America's highly mechanized coal industry is the world's most efficient. Thus you are assured of a dependable supply of coal, at relatively stable prices, for years to come.

BITUMINOUS COAL INSTITUTE
A Department of National Coal Association
Southern Building, Washington 5, D. C.

If you operate a steam plant, you can't afford to ignore these facts!

BITUMINOUS COAL in most places is today's lowest-cost fuel, and coal reserves in America are adequate for *hundreds of years to come.*

COAL production in the U.S.A. is highly mechanized and by far the most efficient in the world.

COAL prices will therefore remain the most stable of all fuels.

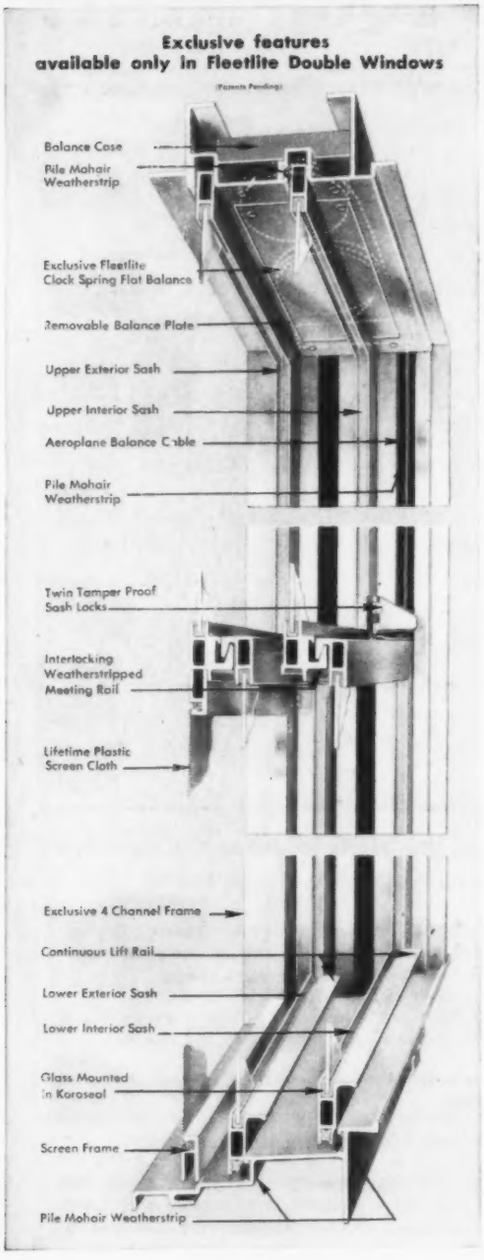
COAL is the safest fuel to store and use.

COAL is the fuel that industry counts on more and more—for with modern combustion and handling equipment, the inherent advantages of well-prepared coal net even bigger savings.

FOR HIGH EFFICIENCY FOR LOW COST

YOU CAN COUNT ON COAL!

Specify Double Windows for HOSPITALS DORMITORIES APARTMENTS



Fleetlite 3-D WINDOW of Extruded Aluminum

Provide

- **Draftless Ventilation**
- **Effective Insulation**
- **Inside Cleaning**
- **Freedom from Painting**

1. Balanced sash with patented automatic locks found on no other windows.
2. Removable sash for cleaning from the inside.
3. Pile mohair weatherstripping.
4. Glass set in Koroseal instead of putty.
5. New twin tamper proof locks.
6. Quadruple seal at sill.
7. New exclusive flat type overhead balances.
8. Lifetime plastic screen cloth.
9. Complete elimination of maintenance or painting.
10. The only complete double window for your protection against all the elements.

— for economical air conditioning.

Picture Windows — available to match.

"Money can buy no finer window than Fleetlite"

TERRITORIES OPEN FOR FULL TIME FACTORY REPRESENTATIVES AND DEALERS



WRITE TODAY for the full story on Fleetlite.

Fleetlite — AMERICA'S Finest WINDOW

As advertised in House Beautiful, House & Garden, Small Homes Guide, American Builder and Magazine of Building.

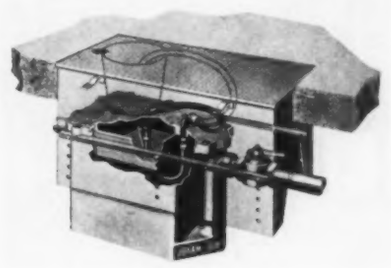
FLEET OF AMERICA, INC., 407 Dun Building, Buffalo 2, New York

A.E. PRODUCTS

(*Continued from page 214*)

GREASE INTERCEPTOR

The "JHR" interceptor for recessed installations in the floor or in a pit automatically evacuates grease at the turn of a valve. It is designed on the same low pressure principle as the new Series "JH" except that the grease is evacuated directly from the top of the low pressure chamber by means of a flexible hose into a container which may be placed on the cover of the interceptor.



Low pressure grease interceptor

This interceptor is equipped with a steel frame which is buried in the construction, and it is supported on carrier brackets adjustable to various depths. The loose cover on the steel frame is flush with the floor. *Josam Mfg. Co., Dept. X2, Michigan City, Ind.*

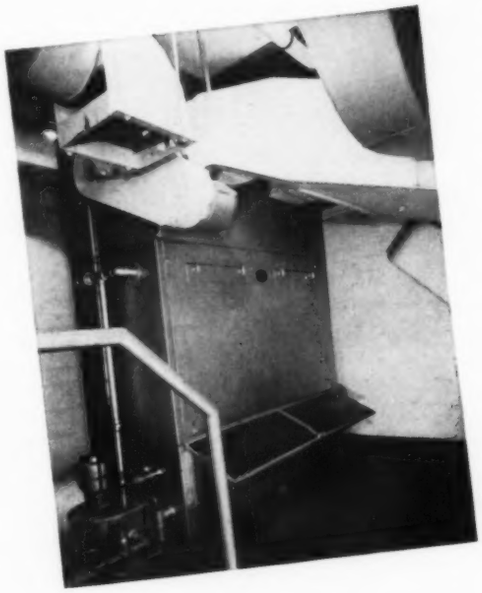
ALTERNATE FOR ROOFING PITCH

To offset an acute shortage of roofing pitch, used in applying built-up roofs of coal tar pitch, tarred felt, and with gravel or slag surfacing, *Ruberoid Special Roofing Bitumen* has been introduced. This roofing product is a proven alternate for coal tar pitch, not a substitute. It will permit the completion of many large built-up roofing jobs on which coal tar pitch has been specified. Without such an alternate, it is reported, many of these jobs would be seriously delayed.

Based on old product formulae and performance records, duplication of waterproofing agents used in fine, permanent built-up roofs of yesteryear was readily effected. It is stated that since this product is a proven alternate rather than a substitute, it must be applied in strict accord with methods and specifications governing the application of coal tar pitch roofs, and subject to the same roof deck incline limits. *The Ruberoid Co., 500 5th Ave., N. Y. 36, N. Y.*



installs heavy-duty *Acme* evaporative condenser



Of outstanding architectural beauty and exquisite interior is the new Saint Sophia Greek Cathedral in Los Angeles, recently displayed in color by Life Magazine (November 3, 1952 issue).

The entire edifice with its elaborate bas-relief arches and smooth contrasting walls supporting the central dome and two flanking domes is constructed of concrete and steel, truly "built for the ages" as was the intention of Charles P. Skouras, President of National Theaters, Inc. when he sponsored this cathedral for the Greek Orthodox community.

Completely air conditioned, the Acme Evaporative Condenser was selected as a unit that would stand up under long usage. Certain built-in features of excellence influenced Mr. J. W. Bantau, Chief Engineer of National Theatres, Inc. in his selection of a heavy duty Acme Evaporative Condenser.

- ✓ Entire unit hot dip galvanized after fabrication.
- ✓ Heavy #11 gauge end panels and bottom panels. #14 gauge side panels.
- ✓ External self aligning ball bearings, vented.
- ✓ Large cadmium plated shaft (2½" O.D. in this unit.)
- ✓ All prime surface copper coil.
- ✓ Vertical flange mounted pump with stainless steel shaft bronze bushed.

ACME AIR CONDITIONING REFRIGERATION

ACME INDUSTRIES, INC.

Mfgs. of a complete line of Air Conditioning and Refrigeration Equipment

JACKSON, MICHIGAN

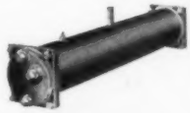


Evaporative Condensers
Cooling Towers
Floor-type Unit Coolers



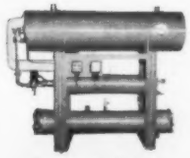
Direct Expansion (Dry-Ex) and Flooded Liquid Chillers

Heat Exchangers, Oil Separators

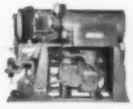


Shell and Tube, Shell and Coil Condensers

Receivers, Pipe Coils



Packaged Liquid Chillers to 225 tons



Flow-Temp Heat Pumps

Flow-Cold Liquid Chillers



Remote Room Conditioner

Continuously serving the air conditioning and refrigeration industry since 1919



ABOVE—The new Applied Arts Bldg., University of Cincinnati, Ohio. James E. Allen, Architect. Frank Messer & Sons, General Contractor.

WITH Sonotube® FIBRE FORMS FOR ONE-TIME USE

See our display!

For perfectly round columns of concrete, piers, piling, underpinning—the modern economical method of forming is with SONOTUBE! These light weight, easy-to-handle forms are available in 31 sizes—1" to 36" I.D., up to 24' long, or longer on special order. Widely used and approved by architects, engineers and contractors. Can be sawed to exact lengths on the job. Technical data sent on request.

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GARWOOD, N. J. — BRANTFORD, ONT. — AKRON, IND.

sonoco "Serves the World" REG. U.S. PAT. OFF.

A|E LITERATURE

(*Continued from page 178*)

CENTRIFUGAL BLOWERS AND EXHAUSTERS

Blowers, Exhausters, Bulletin B-6. Bulletin includes information on centrifugal blowers and exhausters for air or gas handling. Typical applications are illustrated and described to indicate a variety of uses for the equipment. Performance data is presented for air blowers and exhausters with heavy-duty cast iron housings ranging from 1 psi to 7 psi; air blowers and exhausters with heavy-duty fabricated steel housings from ½ psi to 3 psi; and gas blowers or boosters with heavy-duty cast iron housings for gas pressures from ½ lb to 6 lb, with specific gravity ranges of .55 to 1.40. Technical data is included on: agitation of liquids; air for combustion; air for foundry cupolas; ice making; vacuum cleaning; and pneumatic conveying. Fundamental engineering laws for blower applications are given, as well as altitude and temperature correction factors, pressure equivalents, and friction loss and velocity tables. 32 pp., illus. *Lamson Corp., Syracuse, N. Y.*

PROTECTIVE COATING

Protection With Parlon. This booklet contains 35 case histories of the successful use of protective coatings based on chlorinated rubber. Water and sewage works, paper mills, storage tanks, and chemical and food processing plants are among the installations located from coast to coast where Parlon-based coatings have been photographed after long-term exposure to a variety of corrosive environments. Also included are performance data on Parlon finishes and instructions for applying these paints by brush or spray to metal, wood and various cement and asphalt surfaces. 20 pp., illus. *Hercules Power Company, 9th and Market Sts., Wilmington, Del.*

** ASBESTOS-CEMENT BOARD*

Asbestos Flexboard Answers a Thousand Building Needs. Brochure gives complete information on "Asbestos Flexboard" applications for the home, industry, and the farm. Describes how this material is formed under pressure, then hydraulically re-pressed during manufacture to provide strength and flexibility. Following the manufacturing description is a section on handling, working and applying, each step illus-

(*Continued on page 220*)

WHAT GOES ON HERE?

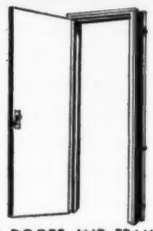


Pictured above is just a small part of the technical staff available at Aetna Steel to engineer the custom production of Aetna hollow metal products.

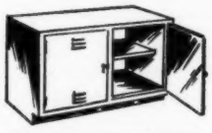
As every architect knows, engineering follow-through on specifications is high on the list of factors which determine the success of a job.

Aetna engineering and research is backed by fifty years' experience in the design and manufacture of hollow metal products.

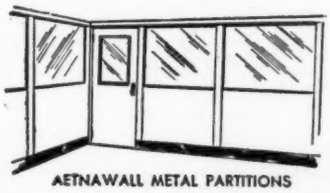
That's why architects know they can depend on Aetna for the kind of care and regard for detail which clear the way for quick and economical installation.



STEEL DOORS AND FRAMES



STEEL HOSPITAL CABINETS



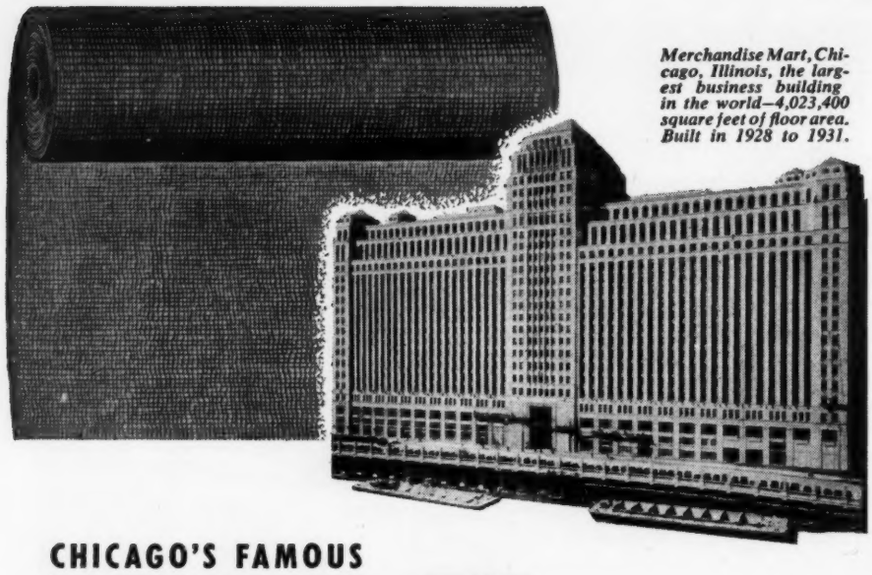
AETNAWALL METAL PARTITIONS

AETNA STEEL PRODUCTS CORPORATION

730 FIFTH AVENUE, NEW YORK 19, NEW YORK

MANUFACTURERS OF STANDARDIZED STEEL DOORS AND FRAMES FOR HOUSING UNITS.

FABRICATORS OF QUALITY HOLLOW METAL PRODUCTS FOR SCHOOLS, HOSPITALS, OFFICE BUILDINGS, ETC.



Merchandise Mart, Chicago, Illinois, the largest business building in the world—4,023,400 square feet of floor area. Built in 1928 to 1931.

CHICAGO'S FAMOUS MERCHANDISE MART CALLED FOR

Karnak®

WATERPROOFING PRODUCTS



Karnak fabric is packed in sturdy, corrugated cartons for protected shipping and storage. They keep the fabric in perfect condition until used . . . cut fabric loss.

Twenty-five years ago, the problem of protecting the foundation of the "Mart" from hydrostatic head was answered with *Karnak*. Even though the big Chicago River flows beside it, *this Karnak job holds secure.*

Why was *Karnak* chosen? Because it is the membrane system of waterproofing *that holds tight against any water condition.*

Karnak is an open mesh long-fibre cotton cloth that has been heavily impregnated with highly refined asphalt *so as to leave the mesh open.* It is layered, on the job, with alternate moppings of asphalt to *provide a tough, resilient, waterproof membrane.* The non-sticking fabric unrolls easily . . . to the very end. It "works" faster and with no waste . . . saves labor costs.

The *Karnak* Membrane System is best for roof patching, skylight flashing, window and door flashing, through-wall and cornice flashing, as well as waterproofing against a hydrostatic head in dams, swimming pools, viaducts and tunnels. Send coupon for complete information. Manufactured by Lewis Asphalt Engineering Corp., 30 Church Street, New York 7, N. Y.

SEE OUR CATALOG IN SWEET'S FILE

OTHER KARNAK PRODUCTS

Asphalt Roof Coatings and Cements	Asphalt Emulsions Tile Cement	Aluminum Roof Coating Wood Block Mastic
Caulking Compounds	Asphalt Paint	Joint Filler

LEWIS ASPHALT ENGINEERING CORP.

30 Church St., New York 7, N. Y.

Please send me **FREE** information about KARNAK Membrane System of Waterproofing

NAME_____

ADDRESS_____

CITY_____ ZONE_____ STATE_____

*Other items I'd like to know about*_____

A|E LITERATURE

(*Continued from page 218*)

trated with detailed drawings and sketches which cover both outside and inside work. 12 pp., illus. *Johns-Manville, 22 E. 40th St., New York 16, N. Y.*

* *FLOOR CONSTRUCTION*

Floors and Floor Problems. Brochure includes information on various types of floors, construction factors entering into their deterioration, and analysis and treatment of floor problems. Based on information supplied by the manufacturer's Laboratory, and on the actual field experience of sales representatives, it is divided into 10 sections. Typical sections are "Practices of Floor Construction," "Why Wood Floors Deteriorate," "Why Concrete Floors Deteriorate," "Special Problems of Industrial Floors," and "Floor Problems of Office, Schools, Institutions." 24 pp., illus. *Tremco Manufacturing Co., 8701 Kinsman Rd., Cleveland, Ohio.*

INSTITUTIONAL FURNITURE

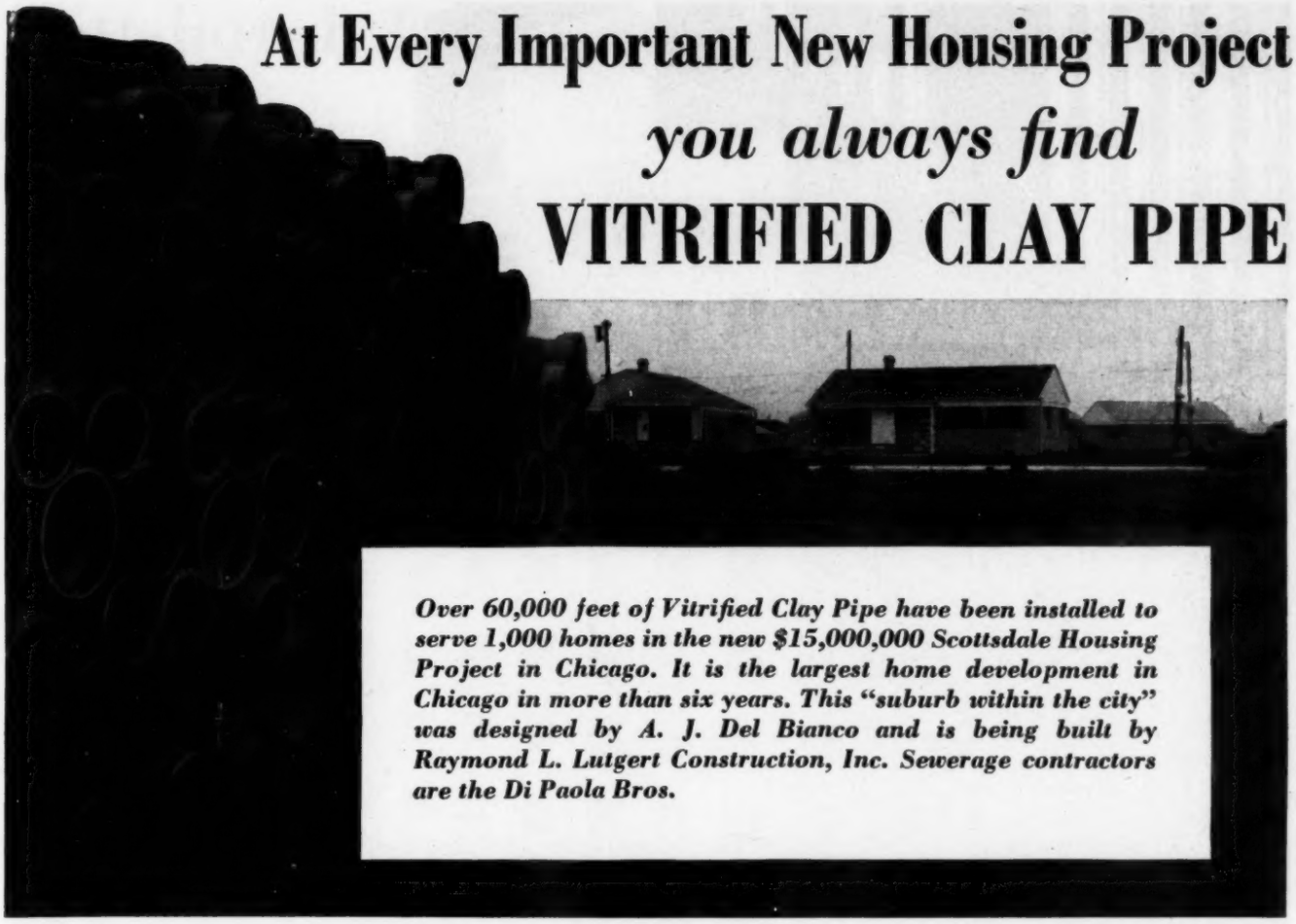
Selections from "America's Foremost Collection of Modern Furniture." Folder illustrating furniture especially suitable for use in hotels, schools, restaurants, offices, institutions and other public areas. Functional modern furniture featured is by George Nelson and Charles Eames. Chairs, tables, storage units, desks and upholstered pieces are included. Specifications and alternate choices in material, finish and color are provided. Interior planning aids and design services are described. 4 pp., illus. *Herman Miller Furniture Company, Zeeland, Mich.*

LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

- H. Divola, A.R.A.I.A., 21 Pier St., Sydney, N.S.W., Australia.
- R. L. May, Consulting Engineer, "Oxley Chambers", 370 Peel St., Tamworth, N.S.W., Australia.
- Robert J. Kuhn, Architect, Vernon, Vt.
- Architectural Drafting Class, Vocational Training Department, United States Department of Justice, United States Penitentiary, Atlanta, Ga.

At Every Important New Housing Project *you always find* VITRIFIED CLAY PIPE



Over 60,000 feet of Vitrified Clay Pipe have been installed to serve 1,000 homes in the new $15,000,000 Scottsdale Housing Project in Chicago. It is the largest home development in Chicago in more than six years. This "suburb within the city" was designed by A. J. Del Bianco and is being built by Raymond L. Lutgert Construction, Inc. Sewerage contractors are the Di Paola Bros.

When you see a project on which outstanding designers, engineers and contractors are staking their reputations—you always find Vitrified Clay Pipe.

Experienced construction people will tell you that Clay Pipe is the *only* permanently corrosion-proof pipe. Acids and alkalis can't weaken it . . . detergents can't make it soft and spongy . . . sewerage gas does not cause it to crumble and give way . . . backfill loads and ground movement can't cause Clay Pipe to "oval" or squash out. Clay Pipe is so good that it is backed up with a 50-year guarantee.

The manufacturers of Vitrified Clay Pipe work constantly to make this fine product even better through research and testing. You can be sure you're getting the latest and the best when you specify Vitrified Clay Pipe. It is performance-proved . . . precision-produced . . . permanently safe.

NATIONAL CLAY PIPE MANUFACTURERS, INC.
1520 18th St. N. W., Washington 6, D. C.

311 High Long Bldg., 5 E. Long St., Columbus 15, Ohio
703 Ninth & Hill Bldg., Los Angeles 15, Calif.
100 N. LaSalle St., Rm. 2100, Chicago 2, Ill.
206 Connally Bldg., Atlanta 3, Ga.

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CLAY
CLAY PIPE NEVER WEARS OUT!
PIPE



Dun & Bradstreet Building
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In building, true cost means more than initial cost. It must also consider upkeep and maintenance, insurance rates, and any other factors which occur only after the first cost has been met. Building materials are **really** economical only when all these factors can be summed up to a low **annual** figure. That is why Stone has always been the prime building material. Stone is economical — at first, year by year, and through the term of its long, serviceable life. A Catalog of Stone is now in preparation and will be made available for professional use at no cost. Write:

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A DEPARTMENT OF THE INTERNATIONAL CUT STONE CONTRACTORS' AND QUARRYMEN'S ASSOCIATION

40 East 56th Street, Indianapolis, Indiana

Pittsburgh Doorways **come in a "package"–**

for quick, easy, cost-cutting installation

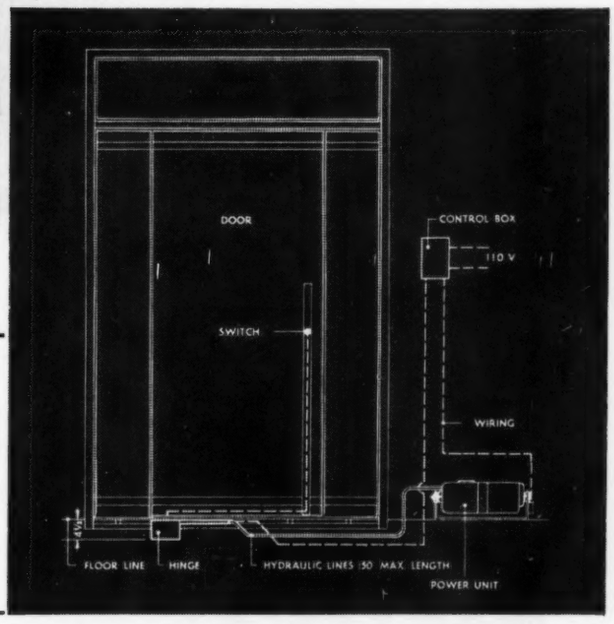


Architects: Corning and Moore, Washington, D.C.

• When a Pittsburgh Doorway reaches the job, all that's necessary is to unpack the frame, bolt it into the building opening and hang the Herculite Doors. Factory-assembled to precision standards, there is no laborious and expensive fitting or fabricating required at the site. Moreover, the frame's handsome appearance and rugged construction assure doorways that are both trouble-free and distinctive. For the frames are fabricated of heavy extruded aluminum, reinforced with steel channels and tie rods.

In choosing a doorway, it's well to remember that the *total-installed* cost—not the list price—is the real consideration. Pittsburgh Doorways save on installation time and labor; their quality is unsurpassed. So they offer more . . . actually cost less!

Why not let us send you complete information? Or, if you are now faced with a doorway problem, let our specialists give you their recommendations. There is no obligation on your part. Write to Pittsburgh Plate Glass Company, Room 4119, 632 Fort Duquesne Blvd., Pittsburgh 22, Pa.



THIS DIAGRAM explains the operation of the Pittcomatic Hinge. The power unit supplies hydraulic power to the hinge under the door through ⅜" copper lines. A 10-volt circuit in the handle passes through the control box and activates the power unit. Oil lines are 3000-lb. test. The action of the door is regulated in all respects by the adjustments provided in the control box and the hinge. No power can build up, so it's a safe door.

Pittsburgh **DOORWAYS**

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS · FIBER GLASS

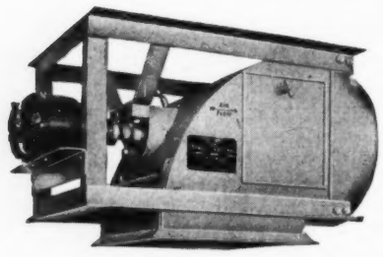
PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED



"...Let's cut this stack off here and put a Wing Draft Inducer on the boiler...We'll save the cost of the chimney, have better draft and a better looking building."

If you are building or rebuilding or increasing the size of your boiler plant, a costly, tall chimney can add considerably to the expense. And a well planned architectural design can be ruined with an unsightly, towering stack.

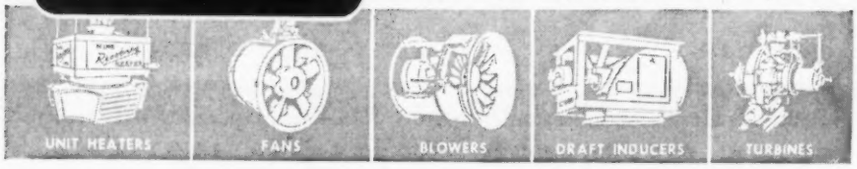


WING DRAFT INDUCERS eliminate this problem, providing positive, adequate, uniform draft regardless of surrounding conditions, or variable weather. They cut operating costs too, by giving higher CO_2's. Smoking is reduced or eliminated. Higher boiler capacity is possible.

Write for Bulletin I-52

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Factories: Linden, N.J. and Montreal, Can.



THE RECORD REPORTS

WASHINGTON

(Continued from page 38)

Undersecretary Walter Williams told the National Association of Real Estate Boards convention in Los Angeles that there is no "mature economy" in construction or real estate.

Mr. Williams said the recent rates of construction in relation to the entire economy have not exceeded the relative proportion of earlier years.

It appears, in fact, that the 1953 record in construction will be attained with the amount of construction relative to the total economic activity being slightly less than in other years. In 1939 it was 13.1 percent of gross national product; in 1953 it probably will be approximately 12.7 percent.

The more usual types of public construction have lagged seriously behind conservatively estimated needs, Mr. Williams added.

AIRPORT FUNDS FROZEN — NO NEW COMMITMENTS

Civil Aeronautics Administration ended fiscal 1953 (last July 1) with $2.5 million unobligated for Federal aid airport construction. About $1.5 million will be consumed by administration, leaving $1 million for airport building — funds now "frozen" by the agency.

Officials say if and when this $1 million is divided among states under the CAA formula, it will mean but a small drop in any one state bucket: "very little or nothing to local sponsors," is the way they put it.

CAA is working on what it calls "the expeditious completion" of projects now underway, but is making no new commitments.

NEW DMS SETUP PLANNED TO CUT DOWN PAPERWORK

The Defense Materials System is being overhauled.

Sometime this month, officials expected to have new procedures in effect which would remove up to 85 per cent of the paperwork formerly burdening suppliers to defense and Atomic Energy Commission contractors.

The new DMS plan scrapped quar-

(Continued on page 226)

THE ARCHITECT...

. . . AND THE PROBLEM OF FINANCING NEW BUILDINGS FOR NON-PROFIT INSTITUTIONS

NON-PROFIT INSTITUTIONS all over America face the difficult problem of mobilizing private funds to finance the construction of urgently needed schools, hospitals and religious buildings.

Right now this is a multi-billion-dollar problem. The backlog of private institutional building needs bequeathed to us by the depression of the Thirties, by World War II and by postwar materials restrictions is still enormous. On top of that our population is growing at the unprecedented rate of 2,000,000 persons annually.

The architect can help non-profit institutions * solve this problem of raising funds on a sound and appropriate basis.

We know of many instances in which architectural plans were actually completed for an institutional building but, unfortunately, work could not progress because funds were not available.

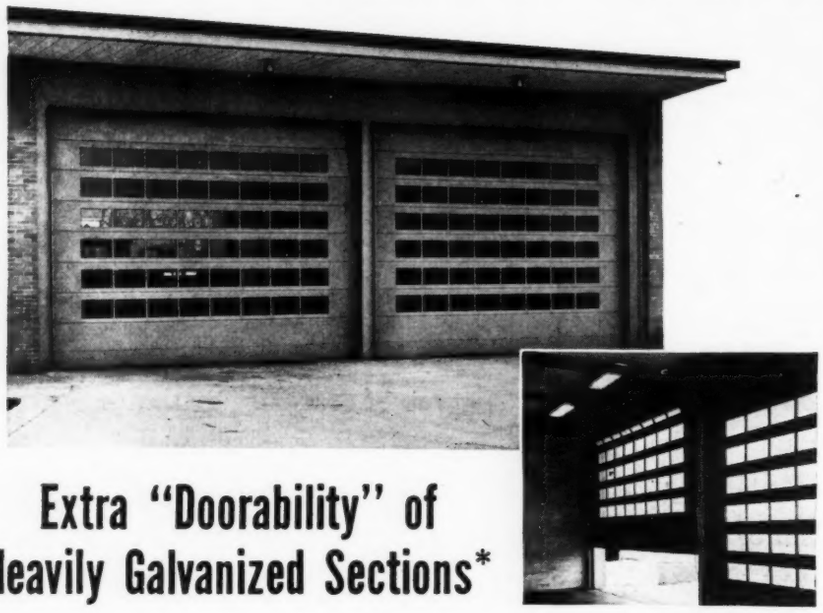
In some such instances the institution would have benefited greatly had the architect been familiar with the services of a non-profit institutional financing counsellor, and had the architect been able to explain the operations of such an organization to his client.

You can obtain full information on how such a firm has helped to mobilize private funds for many non-profit institutions by writing on the letterhead of your firm to *Mr. James H. Fraser, Lawson Associates, Inc., Rockville Centre, N. Y.*

** These are principally non-profit general hospitals, private and parochial elementary and secondary schools, colleges and religious institutions.*

Lawson Associates
INCORPORATED
ROCKVILLE CENTRE, NEW YORK

Kinnear Steel RōL-TOP Doors



Extra "Doorability" of Heavily Galvanized Sections*

Will not sag, warp, rot or split
Built to fit openings of various sizes
Easy space-saving upward action
Opens completely out of the way
Lasting resistance to fire, wind, weather
Heavy-duty torsion spring counterbalance
Provision for any number of glass panels
Easily installed in old or new buildings

WRITE FOR THIS FREE RoL-TOP BULLETIN TODAY!



In Kinnear Steel RōL-TOP Doors, you get the efficiency of smooth ball-bearing upward action . . . *plus* all-steel strength and durability . . . *plus* provision for glass panels in one or more door sections, as desired.

*To assure extra service life with minimum maintenance, the rugged steel sections are given a heavy coating of pure zinc (1.75 oz. per square foot of flat metal per ASTM standard) by the hot process. Then Kinnear's Paint Bond (a special phosphate immersion process) is added, to make sure paint will adhere *immediately and thoroughly* to the protective zinc coating.

In every detail, Kinnear Steel RōL-TOP Doors feature extra strength and ruggedness, for long, heavy-duty, low-cost performance. Sizes to fit any opening. Manual, chain, or motor operation. WRITE FOR FULL DETAILS.

KINNEAR ROLLING DOORS
Saving Ways in Doorways

Kinnear Steel RōL-TOP Doors are designed and built by the same door specialists who *originated* the door with the interlocking steel-slat curtain—famous for more than half a century as the Kinnear Steel Rolling Door.

The KINNEAR Manufacturing Co. *Offices and Agents in All Principal Cities*

FACTORIES: 1860-80 Fields Ave., Columbus 16, O.—1742 Yosemite Ave., San Francisco 24, Calif.

THE RECORD REPORTS

WASHINGTON

(*Continued from page 224*)

terly allotments of steel, copper and aluminum for subcontractors, substituting a simple priority rating. This means much less bookkeeping and less expense; in many instances extra help had to be hired for bookkeeping alone.

Prime contractors benefit too. They continue to receive quarterly allotments for themselves but no longer have to receive subcontractors' allotments as well and pass them on down the line.

Metal producers continue to get quarterly directives on the defense and AEC work. These directives henceforth will include direct allotments to prime contractors and estimates of metals required by the new priority ratings.

ODM SETS UP COMMITTEE TO ADVISE ON MATERIALS

The Office of Defense Mobilization has established an interdepartmental Materials Advisory Committee to advise ODM on policies relating to defense materials, including stockpiling.

The committee will consist of an assistant director for materials (ODM) and one representative from each of these agencies: Interior, Commerce, Defense, General Services Administration, State, Foreign Operations Administration, and Agriculture.

The new group will supervise content, status, rate of progress and completion dates of defense materials programs, changes in emphasis and new programs required to improve supplies.

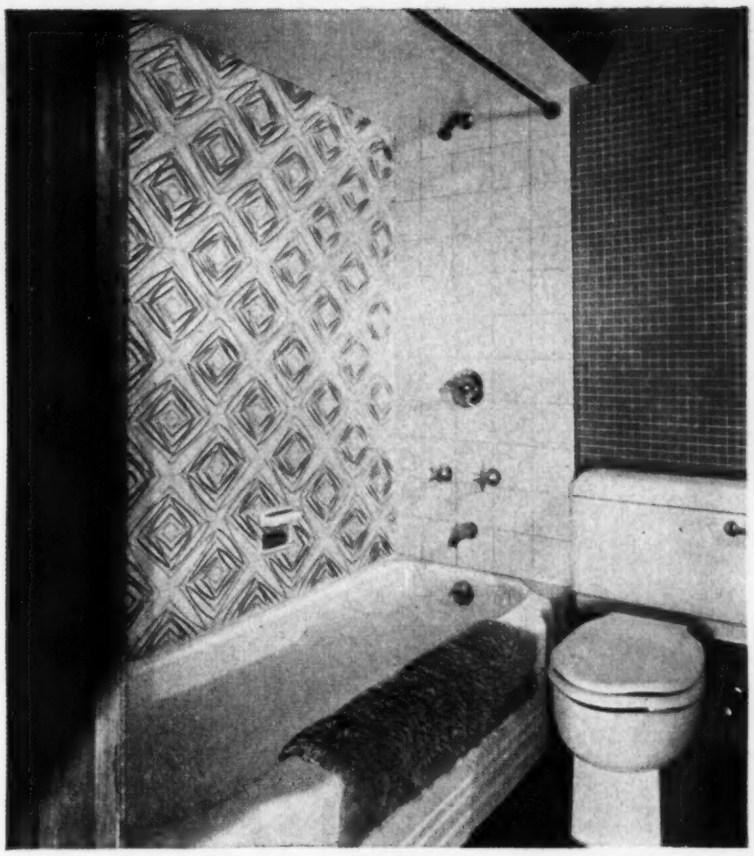
NECA PREPARES TO RENEW FIGHT ON BID PROCEDURE

Both sides — electrical contractors and general contractors — were prepared to renew their struggle over the question of Federal legislation setting out a new bid procedure standard for certain types of government construction.

The National Electrical Contractors Association has called on 80,000 members of the specialty mechanical contracting industries to renew efforts in support of the proposed Federal construction contract act.

(*Continued on page 230*)

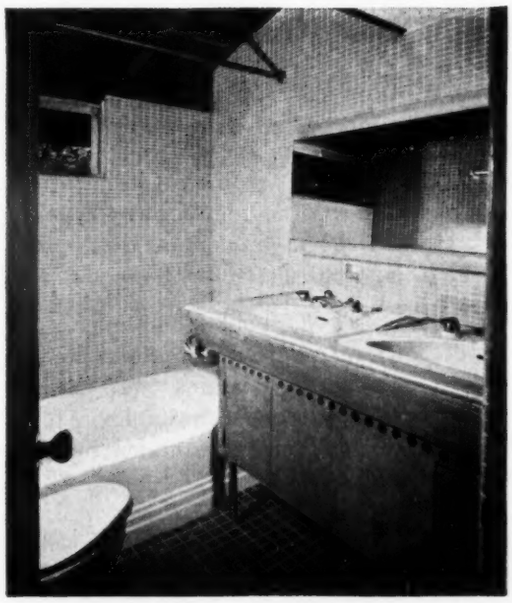
Mosaic Clay Tile in designer's own home



Photos by Maynard Parker
Tilework by National Tile & Marble Corp. New York, N. Y.

Floor—Ceramic Mosaics Design 1003, Color Red. Wainscot—Ceramic Mosaics Design 1780, Color 16-L. Tub recess—6″x6″ Glazed Wall Tile, Color 6097. Rear Wall—Mosaic Formfree* Pattern 6054-A.

. . . unusual baths designed with everyday materials!



Floor—Ceramic Design 1779, Color 1227 CF. Wainscot—1⅛″x¾″ Ceramic Mosaics, Color 30-L. Sink Nosing—Special Faience 3″x1″x3″, Color 2302.

When Designer J. Gordon Lippincott planned his Scarsdale, N. Y. home, he used standard Mosaic Clay Tile colors, shapes and textures to achieve these distinctive bathrooms. In Mosaic Clay Tile he found the warmth, character and versatility that kindled his creative imagination! You, too, will find creative inspiration in Mosaic Clay Tile!

For helpful literature on the many types of Mosaic Clay Tile, write Dept. 30-19, The Mosaic Tile Company, Zanesville, Ohio.

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Offices, Showrooms and Warehouses across the Nation
Over 4000 Tile Contractors to serve you

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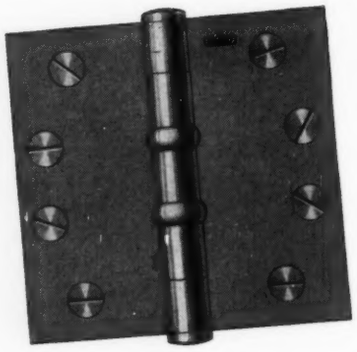
For Free Estimates on (MOSAIC) Tile, see your phone book for the name of Your Tile Contractor (Ceramic)



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Stanley Template Hinges are made to U.S. Standard Template and fit *exactly* the sinkage and screw hole location in both door and jamb. They are made in steel, brass, bronze, stainless steel and aluminum, both regular weight and extra heavy, ball bearing and non-ball bearing. They are exact in size and gauge of metal with the class number on the back. There is a Stanley Hinge for every need. Specify Stanley.

Write for your free copies of the "Hinge Guide" and "Hinge Templates" today. Address The Stanley Works, Hardware Division, New Britain, Connecticut.

Here are two booklets prepared by Stanley for your use in specifying the right hinges on every job.

THE HINGE GUIDE is a 20-page compilation of hinge facts and figures including Underwriters' requirements, U. S. Government standards and full information on hinge types, finishes, features, etc. It's FREE to architects, hardware consultants, builders and contractors. Ask for it.

"HINGE TEMPLATES" is a 48-page booklet designed to simplify the ordering of hinge templates by a uniform numbering system. All the templates it contains, and many others, are available separately on request to Stanley. This booklet is FREE to architects, hardware consultants, builders and contractors. Ask for it.

REMEMBER  THREE HINGES TO A DOOR

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TOOLS
ELECTRIC TOOLS
STEEL STRAPPING
STEEL

INVISIBLE RADIANT HEATING

fills every room with sun-like warmth



There's more livable space and your clients are happier with modern heating units which are out of the way and invisible.

plan homes for more *Comfort*

with THRUSH RADIANT HOT WATER HEAT

HEAT HOMES BETTER AT LOWER COST

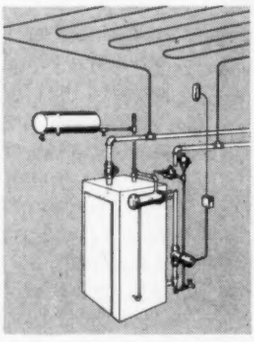
NOW YOU can provide the finest automatic heating comfort in the homes you plan or build, for Thrush Radiant Hot Water Heat is well within the budget of the smallest home. It is one of the most efficient, economical and completely automatic controls for radiant hot water heat offered today.

Fuel is saved because there is never any overheating. There is no chilling or discomfort, because radiant heat is present. Room temperature varies less than one-fifth of one degree. Installation costs are reduced. Also, a plentiful supply of hot water for kitchen, laundry and bath is available the year 'round from the regular heating boiler. Get the facts now!



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The Thrush equipment shown at right maintains room temperature without noticeable variation throughout the heating season.

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Please send, without obligation, a copy of your new, illustrated booklet describing Thrush Radiant Hot Water Heat.

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THE RECORD REPORTS

WASHINGTON
(*Continued from page 226*)

The Associated General Contractors of America, Inc. can be expected to oppose the legislation vigorously as it did last year. Bills moved through committees in both houses but did not reach a vote in either body.

N.E.C.A. is confident that it is nearer success now than at any time in its long battle to secure a new law on the subject of bidding procedure.

CHURCH GROUP SUPPORTS PUBLIC AID TO HOUSING

The National Council of Churches, with some 35 million members among its 30 denominations, is on record supporting the general principle of assistance by Federal, state and local governments in the solution of the national housing problem. N.C.C. also would resume the Federally-supported housing research program that was denied any funds by the first session of the 83rd Congress.

The position was made known in a report by the executive board of the Division of Christian Life and Work, approved by the Council's General Board at a recent bi-monthly meeting in Washington. (The action came just in time to be given consideration by the President's Advisory Committee on Housing before that body made its final report.)

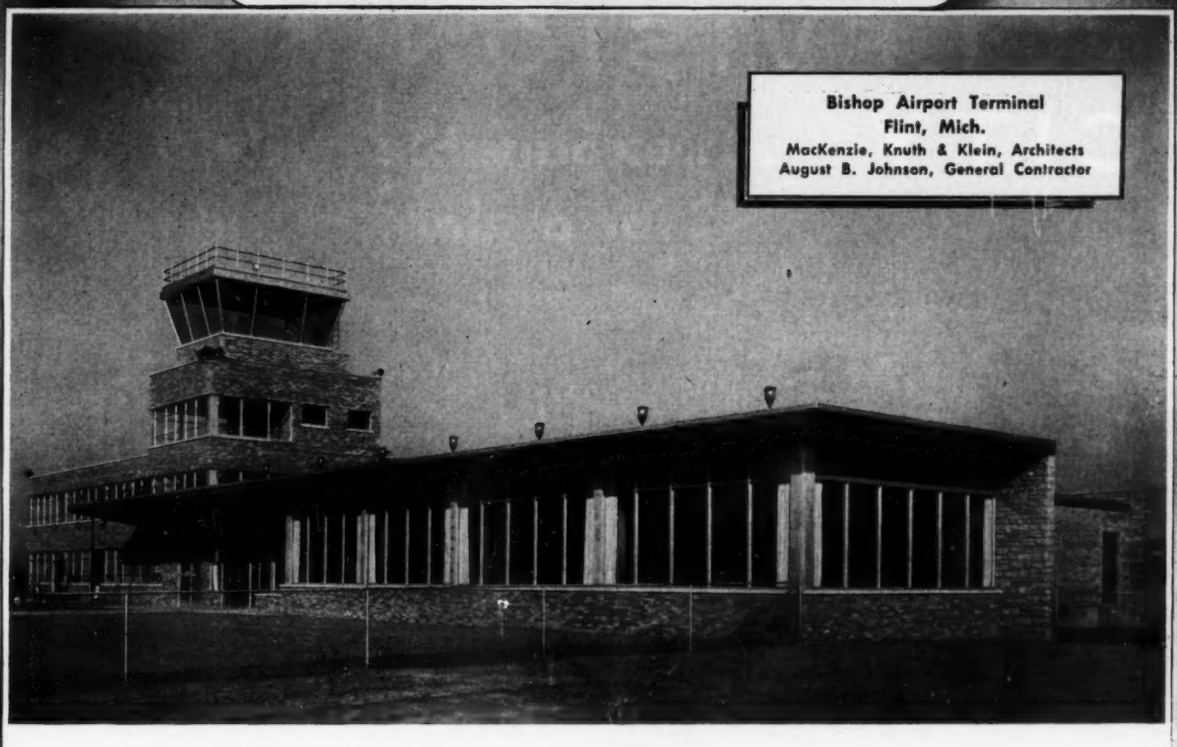
On the premise that millions of Americans still dwell in indecent and overcrowded housing and in congested slum areas, the Council statement takes the view that the high rate of housing construction must be continued. At the same time, it urges that uninhabitable dwellings which are structurally unsound should be torn down at the earliest practicable moment.

Conservation Given Role

The matter of conservation also entered the Council's arguments when it asserted the objective of more and better housing also requires "the protection or rehabilitation of older housing that is basically sound, both under pressure of enforcement of local, county and state housing and zoning codes, and by the stimulation of voluntary neighborhood cooperation and planning."

(*Continued on page 234*)

VAMPCO ALL-ALUMINUM WINDOWS



Bishop Airport Terminal
Flint, Mich.
MacKenzie, Knuth & Klein, Architects
August B. Johnson, General Contractor

Look Ahead . . .

What will the building you are designing today look like a few years from now?

With VAMPCO Aluminum Windows, you can be sure of one thing, "It will have retained that modern, new appearance *without costly maintenance*."

That's why leading architects and contractors select VAMPCO All-Aluminum Windows.

VAMPCO

A NAME THAT MEANS THE VERY FINEST IN LIFETIME ALUMINUM WINDOWS
The Choice of Leading Architects

FOR COMPLETE DATA ON VAMPCO WINDOWS SEE "SWEET'S" FILE OR WRITE TO VALLEY METAL PRODUCTS COMPANY. OUR ENGINEERING DEPARTMENT WILL ASSIST YOU WITH YOUR FENESTRATION PROBLEMS.

VALLEY METAL PRODUCTS CO. PLAINWELL MICHIGAN

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TELEVISION CITY ... expansible nucleus for a giant of the future



"TELEVISION CITY"—CBS-TV's West Coast studios reflect the efficiency, flexibility and expansibility of their design. Architects · Engineers: Pereira & Luckman. General Contractor: William Simpson Construction Co.

● The Columbia Broadcasting System's clean-lined "Television City" in Hollywood, California is the core of an anticipated 25-acre, 24-studio expansion of the network's West Coast TV production facilities. Plans for future enlargement of the building specify that the present walls be easily demountable. Consequently, most of the exterior is composed of large, plain, movable steel panels and glass walls.

The sleek lines of the structure manifest the ideas of efficiency and flexibility upon which the design was based. With such key words as a guide to design, it is a foregone conclusion that the most efficient and dependable pipe and tubing should be chosen for the building's plumbing and heating systems. NATIONAL Steel Pipe got the nod.

For over 60 years NATIONAL has been the accepted standard pipe for conventional hot water and steam heating systems, fire control, and plumbing lines. And today, it is the first choice, too, for modern radiant heating and snow melting installations. Regardless of the application, architects know from long experience that they can put their complete confidence in the uniform, dependable performance of NATIONAL Pipe.

Take a tip from the old timers. When you plan your next installation, plan on using the best-known pipe in the world—U·S·S NATIONAL Steel Pipe.

NATIONAL TUBE DIVISION,
UNITED STATES STEEL CORPORATION, PITTSBURGH, PA.
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK



U·S·S NATIONAL Steel PIPE

UNITED STATES STEEL

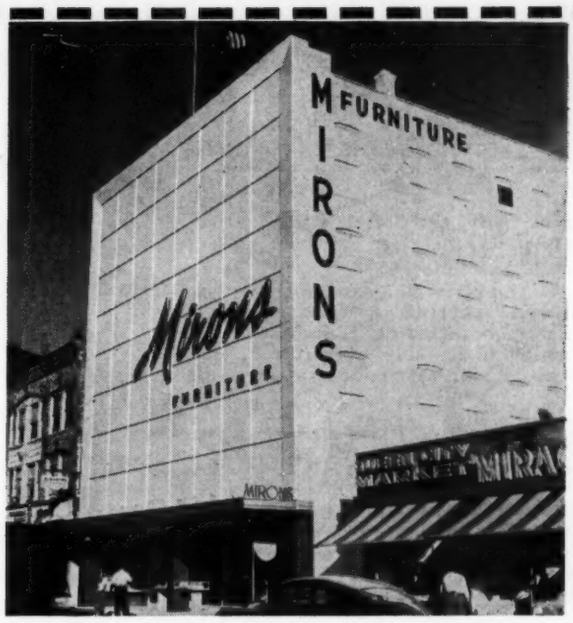


BEFORE

Ugly, old-fashioned, this MIRON Building was an eye-sore!

AFTER

Modern, attractive, MIRON presents an appealing face to the public...transformed by SEAPORCEL background panels and striping in light blue and white stippled matte finish, with border panels and returns slighter darker.



MIRON FURNITURE STORE, Plainfield, N. J.- Architect: Harry Alper, N. Y.

What a difference SEAPORCEL makes!

You can see for yourself that **SEAPORCEL ARCHITECTURAL PORCELAIN** actually performs miracles of transformation! For who would believe that so much could be done for the ugly, old-fashioned **MIRON** building you see above. *AND REMEMBER:* Seaporcel's numerous dies make available an economical selection of "shaped" parts, extruded or reverse, for maximum effectiveness as spandrels, mullions, awning hoods, bulkheads, piers, sign facias, soffits and entire facades.
Obtainable in a variety of complementary colors, these Seaporcel UNLAMINATED parts combine perfectly with SEAPORCLAD* laminated building panels.*

For Some Job...Somewhere...You Can Use SEAPORCEL*

Let Seaporcel's successful applications be your guide to future planning . . . write for brochure #12

There are a few areas in which Seaporcel Metals, Inc., is not represented. Inquiries from interested agents are invited.

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COMPLETE ENGINEERING & ERECTION DEPARTMENTS

WASHINGTON (*Cont. from p. 230*)

While home ownership is highly desirable, it added, private enterprise must endeavor to meet the continuing need for more rental housing within middle-income capacity to pay.

One addition to the report as it was brought from the executive board of the division called upon church leaders to look to their own substandard housing properties with a view to putting the advice on "conservation" into practice.

Charles Taft of Cincinnati, chairman of the Council's department of church and economic life, presented the report for Board action. In so doing, he remarked that some validity in the "hand-me-down" theory in housing must be recognized, but he complained that the principle of trickle-through doesn't work fast enough.

Research Funds Asked

As for research, the council asks resumption of Federal aid for housing research and experiment aimed at improving technological operations of the building industry and at finding new ways to reduce building costs. This aid, it commented, can contribute substantially to the long-range goal of providing good housing for every American.

Total non-segregation was urged.

AIR BASE ISSUE REVIVED AS SPANISH JOB BEGINS

The issue of construction waste at foreign bases apparently is not dead. Rep. Robert L. F. Sikes (Fla.), returning from a visit to African and European bases, charged the armed services have failed so far to punish officers and civilians responsible for malpractices at the African locations.

Congressional Committees last year issued reports on poor practices uncovered; the military explained the most efficient planning had been impossible in view of speed required for construction.

Defense Department says it will move rather slowly with air base construction in Spain to assist the local economy in adjusting to the huge program. Study of sites, topography, position in relation to existing cities and communications may occupy engineers until sometime next summer. Actual work will be done by Spaniards under American supervision. It may be 1956 or 1957 before the fields are completed, if there is no deterioration in the international situation.

Meanwhile, all questions on submission of contractors' brochures were referred to Capt. D. B. Ventres, Bureau of Yards and Docks. Estimated cost of the projects runs well over $100 million. Prime contract will be awarded by Navy shortly after first of the year.

ADDENDA

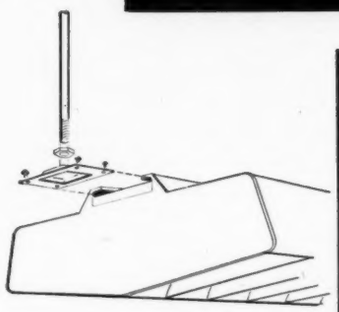
• The total estimated cost of more than 2000 projects now approved in the Hill-Burton Hospital Act program administered by the Public Health Service continued to push on toward the $2 billion mark; Federal share had passed the half-billion point. As of most recent summary (November): total projects in all phases, 2144; total cost, $1,721,032,913;

(*Continued on page 238*)





Performance Exceeds Requirements of *American Standard Practice for School Lighting*



Sliding stem plate can be moved from end to end to support the Cavalier at any point, completely eliminating problems of in-line spacing of mounting points.



For the complete story of this beautiful new streamlined direct-indirect luminaire, write for an 8-page 3-color folder. The F. W. Wakefield Brass Company, Vermilion, Ohio. In Canada, Wakefield Lighting, Ltd., London, Ontario.

Note that the brightness readings for the new Cavalier are well below the recommended maximums:

Zone	The Cavalier	Max. Recommended with Proper Refl.
60°–90°	100 ft.-L	450 ft.-L
45°–60°	250 ft.-L	900 ft.-L
0°–45°	1800 ft.-L	2000 ft.-L

Several important new design features are responsible for such excellent performances:

FIRST, the full length luminous plastic side panels have no opaque metal framing, but are supported internally by a steel frame. This frame is also an internal reflector, a feature which keeps side panel brightness down to a pleasant 100 ft-L.

SECOND, the louvers provide complete 45° x 45° shielding, or shielding at 45° x 25°. There is no view of lamp at specified shielding angles through the entire viewing cone.

THIRD, a special Wakefield low-brightness finish on louvers, side reflectors, panels and channels serves to keep brightness low.

Here then is an excellent new direct-indirect luminaire for your consideration when planning classroom lighting. There are two models, both equipped for Rapid Start or Slimline lamps, the Cavalier II (two lamps) and the Cavalier IV (four lamps).

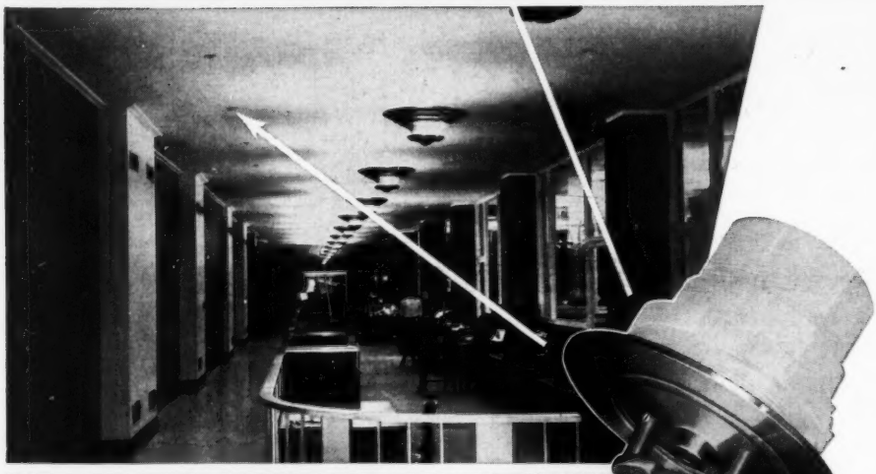
Wakefield Over-ALL Lighting

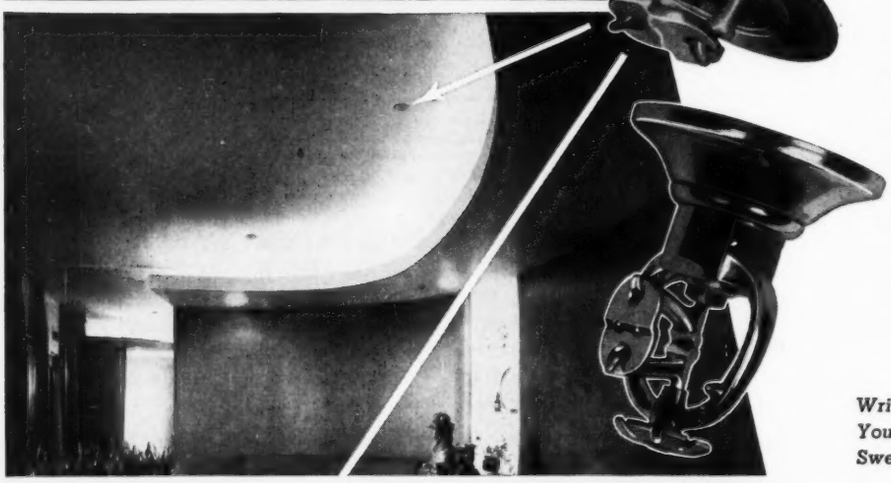






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WASHINGTON (*Cont. from p. 234*)

Federal share, $591,502,161; projects in operation, 1338; their total cost, $808,333,352; projects initially approved, 114; their total cost, $100,647,845. All the jobs in the program will add 103,628 to the nation's supply. There are 358 health centers plus 71 combined with general hospitals.

• The Army has scheduled construction of approximately 30 armories with money already appropriated — some 14 are ready to go ahead when final site selection is made, the others are in preliminary stages of development. The first armory construction appropriation was $13 million in 1950. A total of 39 buildings was erected with that money, and six existing buildings purchased. The 1951 appropriation has been partially spent on 17 new buildings, and $5 million of the unspent money will go toward 14 of the proposed 30 new buildings. Design of the new structures is standardized along contemporary lines. Basic plans (ARCHITECTURAL RECORD, June, 1952, page 14) call for 200-, 400- and 600-man capacities, with each expandable in increments of 200 to a maximum 1000-man capacity. Since this type of building can be classified in the school building category for zoning purposes, there is considerable flexibility in choice of sites.

• The Housing and Home Finance Agency announced approval of temporary loan and capital grant allocations to Birmingham, Ala.; but there was a catch. Director James W. Follin of HHFA's Slum Clearance and Urban Redevelopment Division said final contracts would not be tendered until a "satisfactory" development plan was shown to HHFA — and this spelled nondiscrimination, a delicate problem, naturally, in Birmingham. Amount of the temporary loan allocation was $4,058,000; the capital grant fund, $858,780. The local housing authority is reported to be well along with its plans; but a rumor had grown that the Federal agency would extend the money without assurance of non-discrimination in the units to be built. Putting this report at rest, Mr. Follin wrote the local authority that there could be no barring of Negroes, or any other occupants, on race, creed or color grounds if Federal contracts were to be valid.

• Federal Housing Administration modified one of its Mortgage Property Requirements to permit homes with more than two bedrooms each to qualify for mortgage insurance even though those bedrooms in excess of two do not have direct access to a bathroom or powder room. The move was made to qualify one and one-half story houses where bedrooms in finished attics might not have access to bath facilities on the same floor. Such design will now qualify for mortgage insurance if the specific plan under consideration has "a high degree of continuing marketability."

• Slum clearance recap: more than 200 capital grant reservations are now outstanding. Local programs have been initiated in 161 localities, and development of 50 projects is authorized in 23 places. These carry promised Federal funds of just over $100 million. All projects involve about 5000 acres or nearly eight square miles.

(*More news on page 240*)

Hardware: Grant no.1 sliding door hangers

Location: Firestone Library, Princeton University

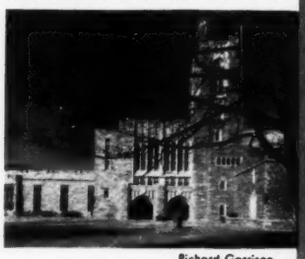
Application: sliding doors for individual reading rooms

Architects: O'Connor & Kilham

quiet, please:

library.

specifications:



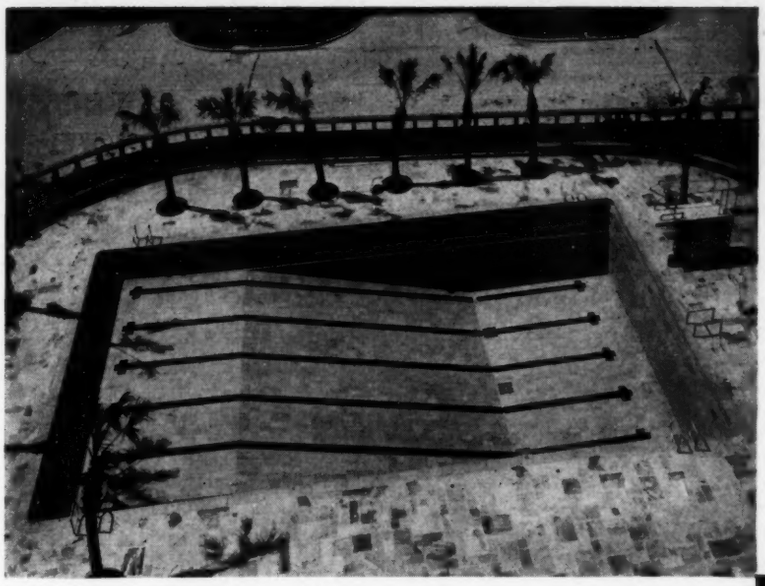
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SWIMMING POOL

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W. S. Bellows Construction Corp., *Builders*

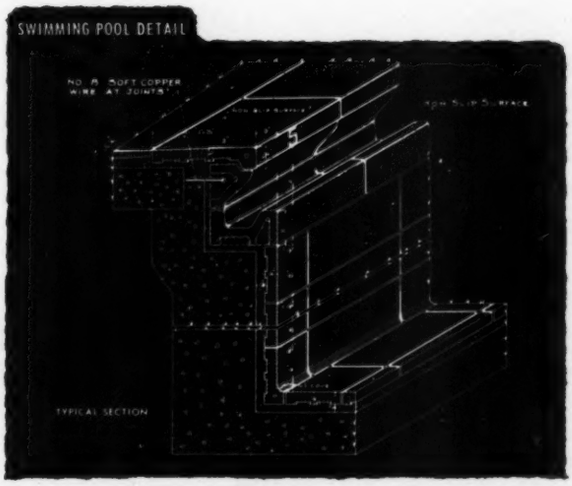
The overflow rim, floor and side walls of the pool are a cool green. Tread surface around edge of pool is sanded for maximum slip resistance; color is tan. Lane markers, ladders and numerals that mark water depth, are of contrasting black for easy visibility. Architectural Terra Cotta was specified throughout.



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Construction detail, data, color samples, estimates, advice on preliminary sketches, will be furnished promptly without charge on Architectural Terra Cotta and Ceramic Veneer.



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THE RECORD REPORTS

(*Continued from page 238*)

ON THE CALENDAR

Current through Jan. 17: Houses of Architects; houses built by architects for themselves — Philadelphia Art Alliance, 251 S. 18th St., Philadelphia.

Jan. 5–7: 1954 Annual National Joint Conference on Church Architecture, sponsored by Church Architectural Guild of America and the Bureau of Church Building and Architecture of National Council of the Churches of Christ in the U. S. — Hotel Andrew Jackson, Knoxville, Tenn.

Jan. 6–24: Sculpture for Churches — Philadelphia Art Alliance, 251 S. 18th St., Philadelphia.

Jan. 7–9: The Metropolis in Modern Life: a Bicentennial Conference — Columbia University, New York City.

Jan. 12–14: Annual meeting, National Constructors Association — Hotel Commodore, New York City.

Jan. 14: Technical Development and Its Impact on Architectural Esthetics, fourth in a series of forums on "The Impact of Science and Materialism on the Arts Today" — Architectural League of New York, 115 E. 40th St., New York City.

Jan. 17–21: 10th Annual Convention, National Association of Home Builders — Conrad Hilton and Sherman Hotels, Chicago.

Jan. 18–22: Winter general meeting, American Institute of Electrical Engineers — Hotels Statler and McAlpin, New York City.

Jan. 20–Mar. 5: International Exhibition on Low-Cost Housing, organized by the Ministry of Works, Housing and Supply — New Delhi, India.

Jan. 24–27: Annual convention and show, Mason Contractors Association of America — Sherman Hotel, Chicago.

Jan. 24–27: Annual meeting, American Society of Heating and Ventilating Engineers — Rice Hotel, Houston, Tex.

Jan. 25–28: Plant Maintenance and Engineering Show and Conference, produced by Clapp & Poliak Inc. — International Amphitheatre and Hotel Conrad Hilton, Chicago.

Jan. 27–29: Tenth Annual Technical Conference, Society of Plastics Engineers — Royal York Hotel, Toronto, Ont.

Jan. 28–29: Canadian Conference on Prestressed Concrete — Hart House Theatre, Toronto, Ont.

Jan. 28–31: Annual meeting, Society of Architectural Historians — Bellevue-Stratford Hotel, Philadelphia.

Feb. 3–5: Ninth Annual Conference of the Reinforced Plastics Division, Society of the Plastics Industry — Edgewater Beach Hotel, Chicago.

Feb. 11: Technical Development and Its Impact on Painting: fifth in a series of forums on "The Impact of Science and Materialism on the Arts Today" — Architectural League of New York, 115 E. 40th St., New York City.

Feb. 11–13: 1954 Convention, National School Boards Association — Chalfonte-Haddon Hall, Atlantic City, N. J.

Feb. 13–18: American Association of School Administrators, National Education Association — Atlantic City, N. J.

Feb. 21–27: National Engineers Week, sponsored by the National Society of Professional Engineers: theme, "Engi-

(*Continued on page 242*)

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Alabama Beautifies its State Capital with Architectural Concrete



In 1937 the State of Alabama built its Highway Department Building (above) with architectural concrete. It was so pleasing the Archives and History Building (upper right) followed in 1940.

When it was decided, a decade later, to build additional structures, the beauty and outstanding performance of the Highway and Archives Buildings led to the choice of architectural concrete again. The State Office Building (middle right) now is being built. Construction of the Public Health Building (lower right) starts this year.

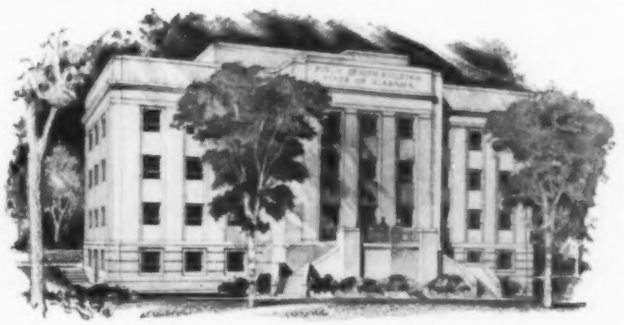
These structures in Alabama's capital illustrate the beauty and adaptability of architectural concrete for public buildings. It is equally adaptable to schools, hospitals, apartments, churches and industrial and commercial buildings.

Architectural concrete fulfills every structural requirement too—durability, strength, firesafety, low maintenance expense and ***low annual cost.***

More and more architects are discovering that architectural concrete is the ideal medium for giving form to their finest designs. For more information write for free, illustrated literature, distributed only in the United States and Canada.







Architects: for Health Building, Charles H. McCauley, Birmingham; for others, Warren, Knight & Davis, Birmingham. Structural engineers: for Health Building, Strickland and Associates, Birmingham; for others, Carl Wilmore, Birmingham. Construction: Highway and Archives Buildings, WPA; State Office Building, Ray M. Lee Company, Atlanta, Ga.; Health Building, Batson-Cook Company, West Point, Ga.

PORTLAND CEMENT ASSOCIATION
Dept. 1-8, 33 West Grand Avenue, Chicago 10, Illinois
A national organization to improve and extend the uses of portland cement and concrete . . . through scientific research and engineering field work

THE RECORD REPORTS

(*Continued from page 240*)

neering, Builder of a Strong America."

Feb. 23–Mar. 27: 1954 Gold Medal Exhibition of architecture, mural decoration, sculpture, design and craftsmanship in native industrial art, landscape architecture and engineering — Architectural League of New York, 115 E. 40th St., New York City.

Mar. 2–5: Department of Audio-Visual Instruction, National Education Association — Chicago.

Mar. 4–6: National Conference on Higher Education, Association for Higher Education, National Education Association — Chicago.

Mar. 4–Apr. 4: Gio Ponti and Gyorgy Kepes; an architecture and design exhibit — Institute of Contemporary Art, 138 Newbury St., Boston.

Mar. 8–11: National Electrical Manufacturers' Association — Edgewater Beach Hotel, Chicago.

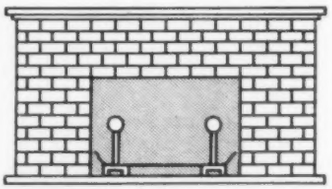
Mar. 10–12: 40th Annual Convention, Michigan Society of Architects — Hotel Statler, Detroit.

Mar. 11: Technical Development and Its Impact on Sculpture, sixth in a series of forums on "The Impact of Science and Materialism on the Arts Today" — Architectural League of New York, 115 E. 40th St., New York City.

Mar. 15–19: Tenth Annual Conference and Exhibition, National Association of Corrosion Engineers — Kansas City.

Mar. 22–26: First annual Southern Homes Show, sponsored by Textile Hall Corporation — Textile Hall, Greenville, S. C.

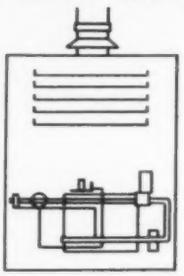
FIREPLACE



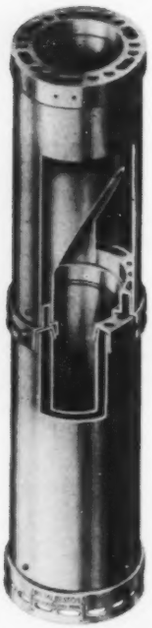


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OFFICE NOTES

Offices Opened

• Stanley James Goldstein, A.I.A., has announced the opening of his offices at 65 S. Orange Ave., South Orange, N. J.

• G. B. Gusrae, engineering consultant on vertical transportation, announces the opening of an office at 6 E. 39th St., New York 16, N. Y.

• James S. Liberty, A.I.A., has opened an office for the general practice of architecture. His address is Main Building, Medical Arts Square, 801 Encino Place N. E., Albuquerque, N. M.

• Douglas C. Morris has announced the opening of an office for the practice of architecture at 55 Bay Shore Drive, Bay City, Mich.

• Byron E. Porter, A.I.A., announces the opening of his offices at N. 4111 Whitehouse St., Spokane 8, Wash.

New Firms, Firm Changes

• The new firm of Beretta, Greenslade, Clark & Collins, Inc., has succeeded to the engineering business of J. W. Beretta Engineers Inc. Members of the new firm are J. W. Beretta, William F. Greenslade Jr., Odis H. Clark Jr. and Malcolm A. Collins. Offices will remain at the Travis Building, San Antonio 5, Tex.

(*Continued on page 244*)



The Warwick, new 280-family apartment building at Atlantic City, N. J., is fire-resistant because it uses Bethlehem Open-Web Joists, combined with concrete floor slab and plaster ceiling.

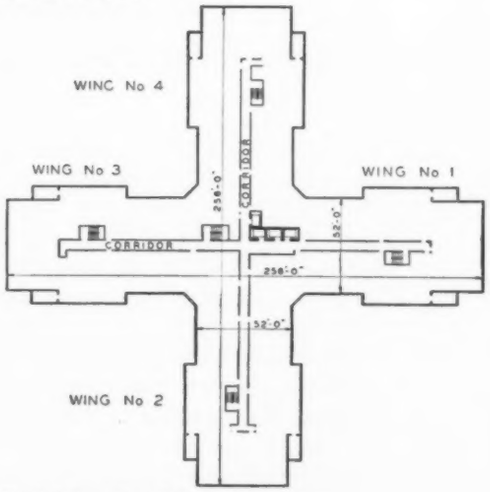
STEEL JOIST CONSTRUCTION PROVIDES FIRE-SAFETY FOR OCEAN-FRONT APARTMENT BUILDING

This new apartment building, called The Warwick, stands only a stone's throw from the ocean at Atlantic City, N. J. It is nine stories high, and designed so that most of its 280 apartment units have a beach-front exposure.

A feature of the design of The Warwick is the minimum use of solid exterior walls, with maximum use of glass between floors. In fact, glass is utilized to a greater extent than masonry, with solid walls confined to horizontal spandrel bands, each apartment benefiting through increased natural light and air.

The ground floor of the yellow-brick structure is almost wholly dedicated to the community. It has a 200-seat restaurant and terrace, both overlooking an outdoor salt-water pool. There are also cabanas and shops.

One of the construction features of The Warwick is its resistance to the spread of fire. This is made possible through the use of Bethlehem Open-Web Steel Joists, in combination with concrete floor slab and insulating plaster ceiling. This type of construction is easy to install and provides a floor structure with a fire-rating of from one to four hours, depending upon slab thickness and type of plaster used.



Typical floor plan of the 9-story structure.

Owners and Builders: E. J. Frankel Enterprises, Ephraim J. Frankel and Frank M. Steinberg.

Architects: Knopf and Oshiver.

Structural Engineer: R. E. McLaughlin.

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BETHLEHEM OPEN-WEB STEEL JOISTS

BETHLEHEM STEEL

THE RECORD REPORTS

(*Continued from page 242*)

• Kurt Gross, A.I.A., and Fred Marburg, Architect, have announced the formation of a partnership. The firm's address is 390 Park Avenue, San Jose, Calif.

• Harrison, Ballard & Allen, New York architectural firm, has announced the division of the partnership into two operations. Mr. Allen heads a city planning firm known as Harrison, Ballard & Allen Inc., with offices at 243 E. 49th St., New York City, while Mr. Ballard is continuing his architectural practice at the firm's old address, 123 E. 77th St., New York City. The partnership will continue its practice, however, until existing obligation has been fulfilled.

• H. H. Waechter, A.I.A., has announced the opening of his practice as architect and city planner. His address is Box 268, Rt. 2, Creswell, Ore. Mr. Waechter was formerly Associate Professor of Architecture at the University of Oregon.

• Lawrence H. Wilkinson has joined the architectural firm of Flewelling and Moody as Service Representative. The firm's address is 3112 Los Feliz Blvd., Los Angeles 39, Calif.

New Addresses

Victor Bohm, A.I.A., 505 Fifth Ave., New York 17, N. Y.

Charles W. Cloud, Architect, 931 W. Third Ave., Columbus 8, Ohio.

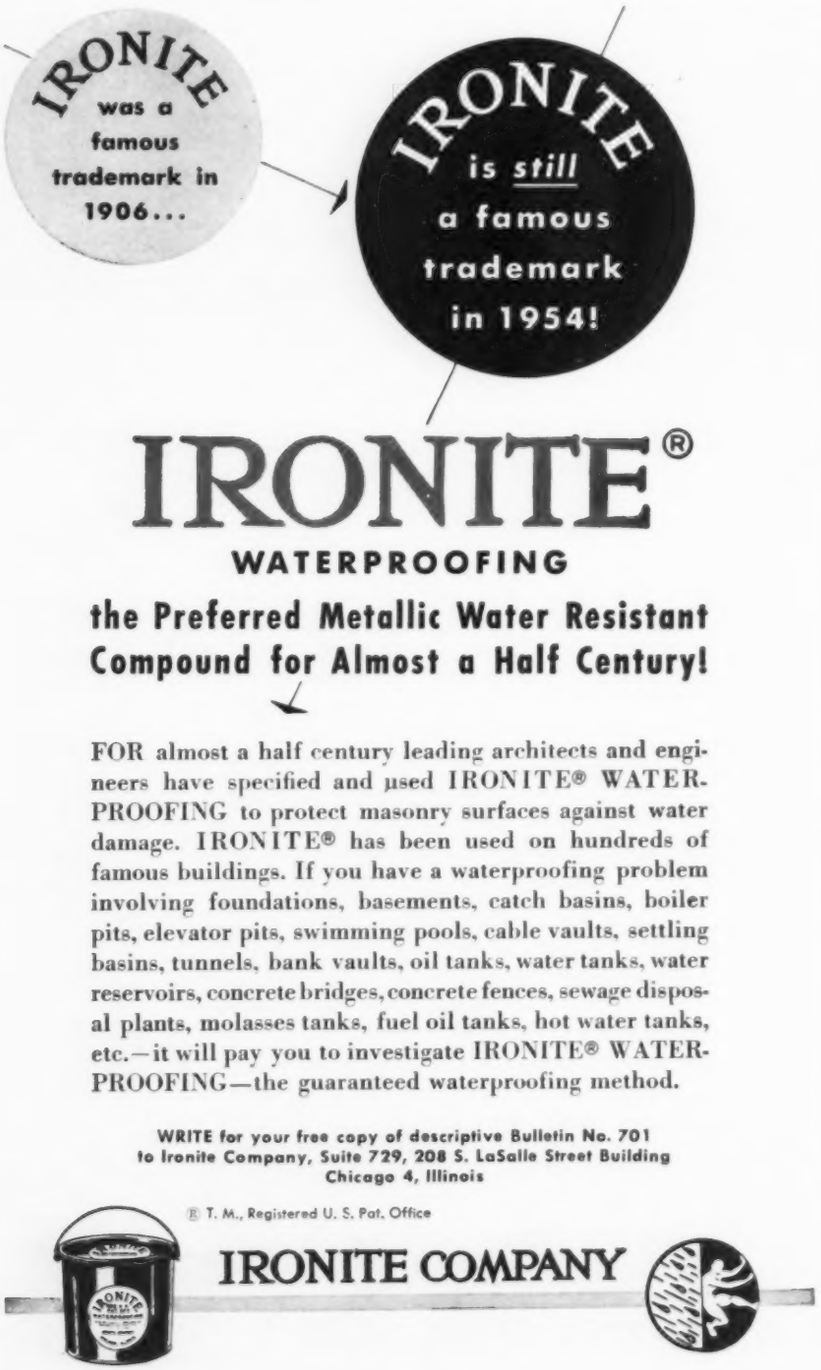
August Diemeister, Architect, R. No. 1, Vanderbilt Parkway, Huntington, L. I., N. Y.

Eliasoph & Berkowitz, Architects, 6931 Côte des Neiges Road, Montreal, Quebec.

Cletis R. Foley, A.I.A., 317 S. Jefferson St., Peoria 2, Ill.

Mickelson & Fraser, Architects and Engineers, Mills Building, 16th Ave. at Memorial Ave., Intercity, Ont.

William W. Patterson, Architect, P. O. Box 2, Danville, Va.



ELECTIONS

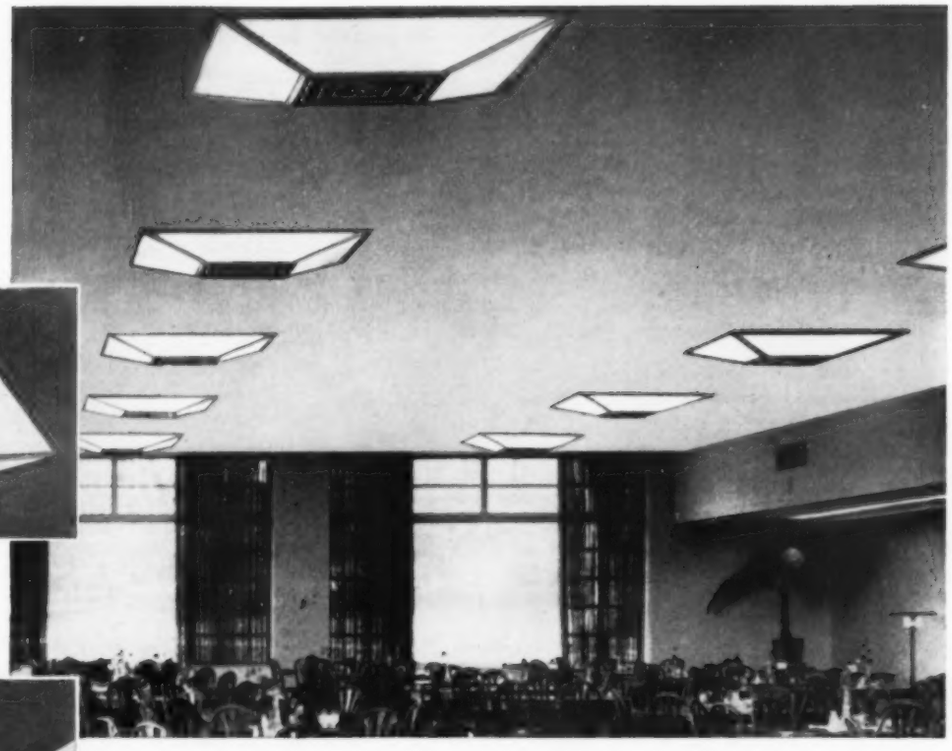
• Brig. Gen. Dwight F. Johns, of Piedmont, Cal., has been elected president of the Society of American Military Engineers. Gen. Johns, who retired from the Army in 1949, has since served as staff engineer to the State of California Office of Civil Defense.

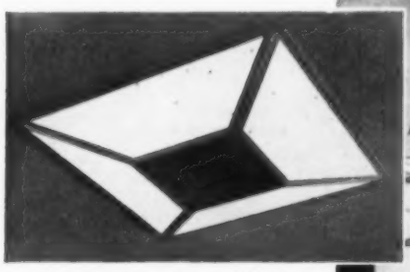
• Dean Cornwell has recently been elected president of the National Society of Mural Painters. His fellow officers include Helen Treadwell, first vice president; Virginia Wood Riggs, second vice president; Charles Baskerville, secretary; and Louis Ross, treasurer.

• American Community Builders, Inc., has announced the election of Philip M. Klutznick to the new post of chairman of the board. Nathan Manilow will succeed Mr. Klutznick as president of the corporation.

(*More news on page 248*)

Project: Manhattanville College, Purchase, N. Y.
Architects: Eggers & Higgins, New York, N. Y.
Fixture Manufacturer: Gruber Bros., Inc., Brooklyn, N. Y.
Lightingware: CORNING Alba-Lite and PYREX brand Lenslites





In dining room, air conditioning diffuser is integrated with lighting fixture. Light is pleasantly diffused by Corning Alba-Lite.



Classrooms, assembly hall, and corridors feature recessed fixtures also shielded with Alba-Lite low-brightness lightingware.



Stage of music auditorium is lighted with 32 recessed incandescent units shielded with PYREX brand Lenslites.

New ideas in lighting for girls' college realized with Corning lightingware

The ingenious combination of air conditioning with engineered lighting for *five* new buildings of Manhattanville College for Girls offers interesting possibilities for almost any type of building.

For example, in the dining room, air conditioning outlets are integrated in large fluorescent fixtures. Each one containing 24 lamps using a total of 600 watts. Sloping shields of Corning Alba-Lite diffusing glass afford low-brightness illumination of the proper intensity for dining.

In the assembly hall, three air conditioning outlets are spaced in each of seven rows of continuous recessed troffers. Alba-Lite is used here also. It provides diffuse, high-level illumination, free of direct glare and harsh ceiling contrast.

Over the music stage of the auditorium, 32 incandescent units are shielded by PYREX brand Lenslites effecting a wide angle cutoff of the 150-watt lamps. They create a blanket of light of high intensity.

Corning offers a wide range of diffusing lightingware as well as Lens Panels and Lenslites. You will find these products adaptable to any lighting problem. Bulletin LS-35 tells you how to figure requirements. Send for it today.

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Firm.....

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City..... Zone..... State.....

THE RECORD REPORTS

(*Continued from page 244*)

DETROIT'S CIVIC CENTER ADDS CITY-COUNTY BUILDING

The second unit of Detroit's Civic Center got under way recently when construction was begun on the City-County Building, a joint project of the city and Wayne County to house offices and courts for both governments. The courts are located in a 20-story building which is connected by a glass "link" to the 14-story office unit. Despite the difference in height, the office unit has a greater floor area with its dimensions of 110 ft by 262 ft against the 76 ft by 155 ft area of the court building.

The court building contains 36 court rooms of varying sizes in accordance with the needs of each court. A separate corridor is provided for the judges' chambers and the jury rooms.



The office unit features a 500-seat amphitheater in which public meetings of the city's Common Council and the county's Board of Supervisors will be held. Both this room and the lounge beneath it are lighted from the north by a window (25 ft high and 98 ft long) which also affords a view of downtown Detroit. The first two floors of the office building have been allocated to departments expecting the largest flow of visitors, such as licensing and voter registration agencies. Other spaces, such as the civil service examining room, press facilities and the legal library in the court building, will be shared.

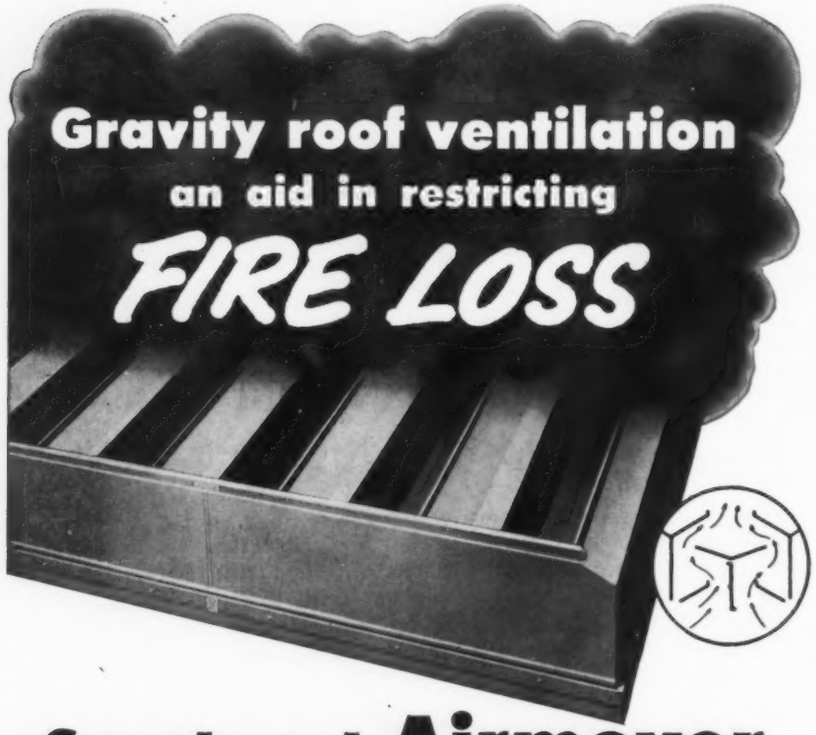
Architects for the building were Harley, Ellington and Day.





Above: Detroit's City-County Building, comprised of a 20-story court building and a 14-story office unit. Below: the north view of the building

(*More news on page 250*)



Swartwout Airmover

with fusible link damper release

. . . a valuable safety factor

The Livonia* fire taught an important lesson. Confined smoke and fumes prevented firemen from locating flame sources — cancelled efforts to keep fire from spreading. Large scale Swartwout Airmover roof ventilation would have released heat and dense oily smoke — *fast* — allowing more effective fire-fighting.

Airmover provides everyday economical roof ventilation adaptable to any type of building. Only 32 inches high, air travel is short, with practically no air friction. Fully weatherproof, with adjustable dampers. As a fire hazard provision, dampers can be weighted to open fully when an approved type fusible link releases operating bar. Investigate this valuable safety aid. Write for Bulletin AM-G.

* *Livonia, Mich. — General Motors Hydramatic plant. See article in November "Fortune".*

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Roof Ventilators and Ventilating Louvers

POWER PLANT EQUIPMENT • PROCESS INDUSTRY CONTROLS



244 of 261 Plumbing Inspectors
say their choice of materials is
CAST IRON SOIL PIPE

On November 4, 1953, the Institute wrote to 688 plumbing inspectors in cities scattered all over the U. S. These officers were asked about their preference in materials for house sewers, running from house to street, or from house to septic tank.

Of the 261 inspectors who replied, 244 said that for mechanical strength, root-proofness and permanence, they prefer **Cast Iron Soil Pipe and Fittings.** That's the opinion of men whose job is to safeguard public health.

Every architect knows sound reasons for this overwhelming preference. Not only does cast iron soil pipe resist the damage of settling, moisture and root penetration, but its lead-caulked joints and its fittings take the rigors of rodding without damage. Many architects feel that their responsibility to clients includes the structure and all its connections, straight through to the street. That's why so many of them specify permanent cast iron soil pipe and fittings.

USE *PERMANENT* CAST IRON SOIL PIPE AND FITTINGS

How the sound movie, "PERMANENT INVESTMENT" can be of help to the architect

Today, more than ever before, architects are being consulted about materials and methods that affect the home as a whole. Many clients seek the architect's advice on the plumbing drainage system, not merely in the house itself, but including the sewer line from house to street, or house to septic tank. The Institute will be glad to arrange for a free showing of "Permanent Investment" to help any architect to demonstrate the importance of quality materials in plumbing drainage.



CAST IRON SOIL PIPE INSTITUTE
Dept. AR-1, 1627 K Street, N.W., Washington 6, D. C.

☐ Send educational folder, "Plumbing Drainage."

☐ Our local ..... Club wants to see your movie, "Permanent Investment." Tell us how to arrange for free showing.

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Address_____

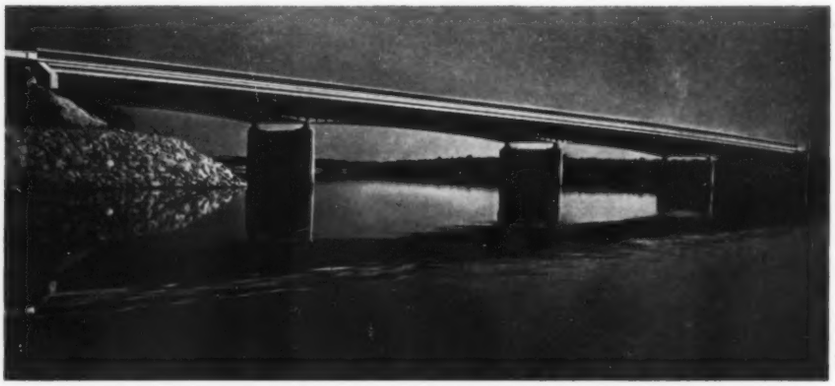
City_____ Zone____ State_____

THE RECORD REPORTS

(*Continued from page 248*)

THREE WINNERS SELECTED IN BRIDGE COMPETITION

The American Institute of Steel Construction, in its 25th annual "Aesthetic Bridge Competition," has chosen three winners among steel bridges opened to traffic during the year 1952. Entries receiving awards were: in Class II, for bridges with spans under 400 ft costing over $500,000, the Neches River Bridge, Beaumont, Texas; in Class III, for bridges with spans under 400 ft costing less than $500,000, the Morris Ferry Bridge, Franklin County, Tenn.; and in Class IV, for movable bridges, the S.E. Fourth Avenue Bridge, over Miami Canal, Miami, Fla. There was no winner chosen in Class I, for bridges with spans of 400 ft or more.



1

(1) Morris Ferry Bridge: designers, Corps of Engineers, Tullahoma District; fabricator, Nashville Bridge Co. (2) Neches River Bridge: designer, Texas Highway Department; fabricator, Bethlehem Steel Co. (3) S.E. Fourth Avenue Bridge: designer, Rader Knappen Tippets Engineering Co.; fabricator, Nashville Bridge Co.



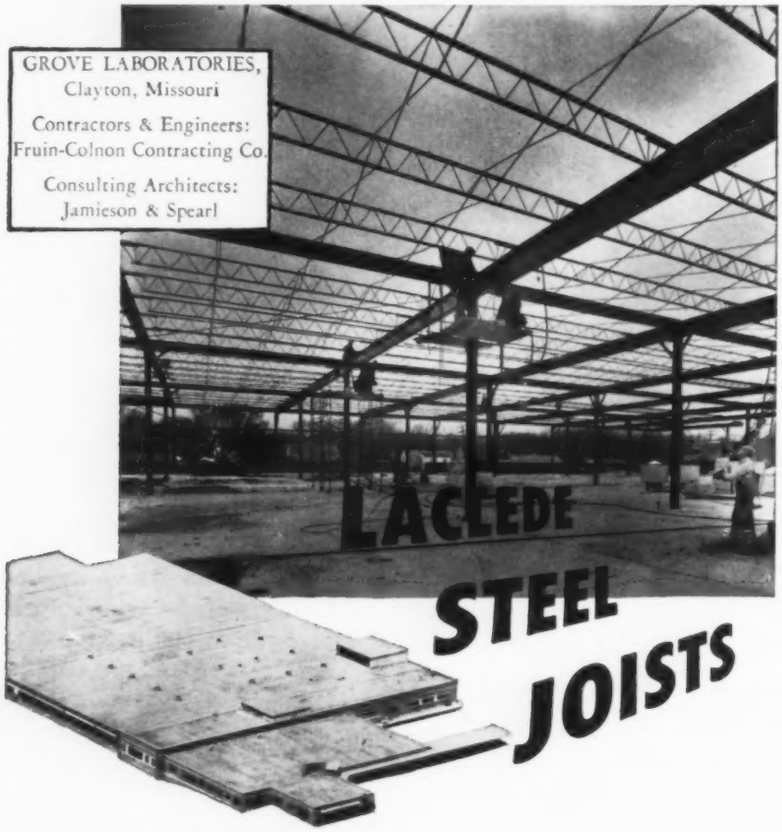
2



3

A.I.A. President Clair W. Ditchy and A.S.C.E. President Daniel V. Terrell were on the jury, which also included Harris Armstrong, A.I.A., J. Woolson Brooks, A.I.A., and Gordon Washburn, Fine Arts director at Carnegie Institute of Technology.

(*More news on page 252*)



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GREATER ECONOMY IN ARCHITECTURAL CONCRETE!



Mount Royal Manor Apartments, Duluth, Minn. Contractor-Owner: W. C. Smith, Inc. Architect: A. Reinhold Melander—both of Duluth.

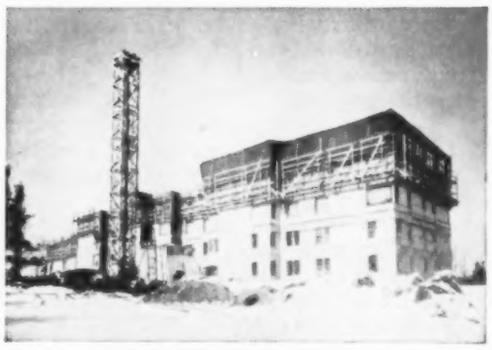
Owner-builder notes "lower costs" with Atlas Duraplastic* Cement

GOOD WORKABILITY is a prime essential in the success of architectural concrete since it serves as both a structural *and* a finish material. W. C. Smith, whose firm is contractor and owner of the Mount Royal Manor Apartments in Duluth, found "concrete made with Duraplastic has better workability, requiring less effort in placing, and that helps lower costs."

When you design for or build with concrete, it will pay you to consider the special advantages of Atlas Duraplastic, the original air-entraining portland cement.

You'll find it requires less mixing water for a given slump. And its more plastic mix aids proper placement, resulting in *improved surface appearance.* Moreover, since entrained air minimizes bleeding, or water gain, and segregation, concrete made with Duraplastic is also *fortified against the effects of freezing-thawing weather.* Both features add up to better concrete.

YET DURAPLASTIC COSTS NO MORE! It sells at the same price as regular cement and requires no unusual changes in procedure. Complies with ASTM and Federal Specifications. For more information, write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.



Construction goes ahead satisfactorily even in 20-below Minnesota weather. And since the mix is made with Duraplastic, finished concrete will have extraordinary resistance to freezing-thawing weather ahead!

**"Duraplastic" is the registered trade mark of the air-entraining portland cement manufactured by Universal Atlas Cement Co.*

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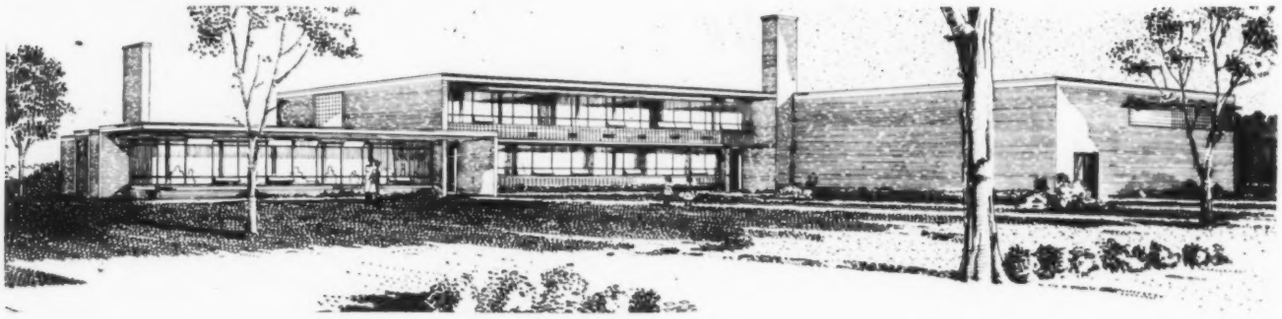
AIR-ENTRAINING PORTLAND CEMENT

A UNIVERSAL ATLAS PRODUCT

Makes Better Concrete at No Extra Cost

UNITED STATES STEEL HOUR—Televised alternate weeks—See your newspaper for time and station.

 (*Continued from page 250*)





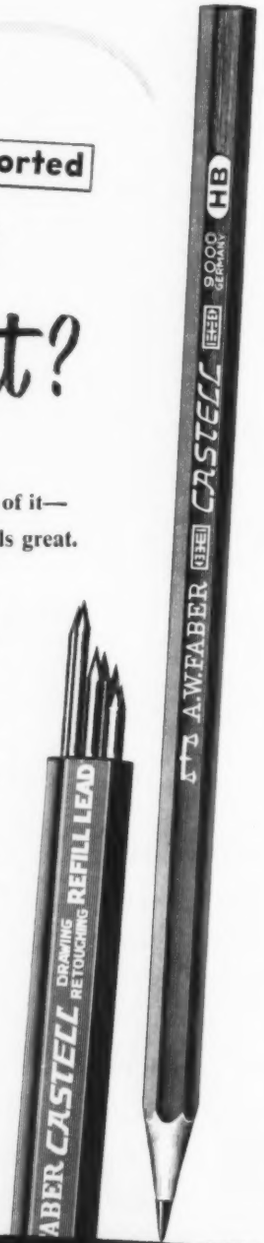
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*Imported from West Germany

BUILT FOR EXPANSION: TWO LOW-COST SCHOOLS

Elmhurst, Ill., a suburb west of Chicago, is building two new elementary schools to take care of a population increase that has averaged 750 families a year for the last six years and is expected to continue till the population has risen from the present 23,000 to 35,000 in 1960.

The two schools, now under construction, are expected by Architects Cone and Dornbusch to be completed for something less than $12 per sq ft — a figure they say is especially good in their area for school construction of comparable materials and facilities. Exclusive of landscaping, equipment and architectural fees, costs for the Jefferson School (above) are placed at $376,783 and for the Emerson School at $362,937.

The schools will each contain 13 classrooms to accommodate 390 pupils and provide for kindergarten through sixth grade. Each will also have a gymnasium planned for community as well as school use, kitchen, nurse's room, special-purpose room and administrative offices.

Three classrooms in the Jefferson School and five classrooms and a special-purpose room in the Emerson School will be left unfinished pending anticipated future enrollment increases. Additional expansion which might be required later has been made as easy as possible by use of a repetitive structural system with a 10-ft module determining classroom and window dimensions. Construction is reinforced concrete and completely fireproof with brick cavity wall construction. Classrooms are of painted concrete block, with acoustical ceilings and fluorescent lighting. Colors are planned in combination with lighting and fenestration to reduce glare and eye strain and to allow a pleasing variety.

(*More news on page 266*)



Radiant heat? Now **MATICO** asphalt tile offers research proof of thermal efficiency!

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(*Continued from page 12*)

sult is a public building program, exclusive of schools, showing a grand total for the coming three years of $2,374,000,000 (not including land costs).

Other than public buildings, the major elements of community services from a capital construction point of view are water works; sewerage projects; streets and urban highways; power, transit, gas, port facilities and airports.

The American City was asked to estimate and forecast activities in the first three categories a number of times last year. A considered estimate was furnished by request and published in the 1954 Market Data Number of *Industrial Marketing* for June 25, 1953 (page 377). We said: "Actual projects in 1952 totaled about $400,000,000 for water works, $600,000,000 for sewerage projects and $350,000,000 for streets." They are running about 18 per cent heavier on the average in 1953.

Our estimates for these three categories for the next three years are also shown in table 2. Adding the public building estimate we get a grand total municipal construction estimate (exclusive of schools) for the three years 1954–55–56 of $6,194,000,000.

The figures developed in tables 1 and 2 are obviously rough estimates; but they are not merely wild guesses. They reflect, in part, what we of *The American City* magazine believe to be a well-founded optimism as to the future of the municipal market. This future gives promise of substantial advances, both quantitative and qualitative, in new municipal services and in urban redevelopment.

Reasons for Optimism

Some special reasons for this optimism may be mentioned briefly:

1. The rapidly growing population of the United States and the increasing concentration of that population in cities, towns, and villages make mounting demands on municipal buildings and community facilities.

2. Within metropolitan areas the current and growing trek to the suburbs is developing a keen competition between the central cities and their satellite communities for public improvements and services that will help the suburbs to grow sanely and the metropolitan centers to redevelop soundly.

3. The many libraries, auditoriums, and public recreation facilities proposed for construction during the next three years are indicative of the desire of urban dwellers for communities of which they may be proud and in which they may find life increasingly worth living.*

4. The fact that nearly 13 per cent of the number and 40 per cent of the cost of the buildings reported in *The American City's* questionnaire are water, sewerage, and incineration plants seems to promise a further upsweep in sanitation.

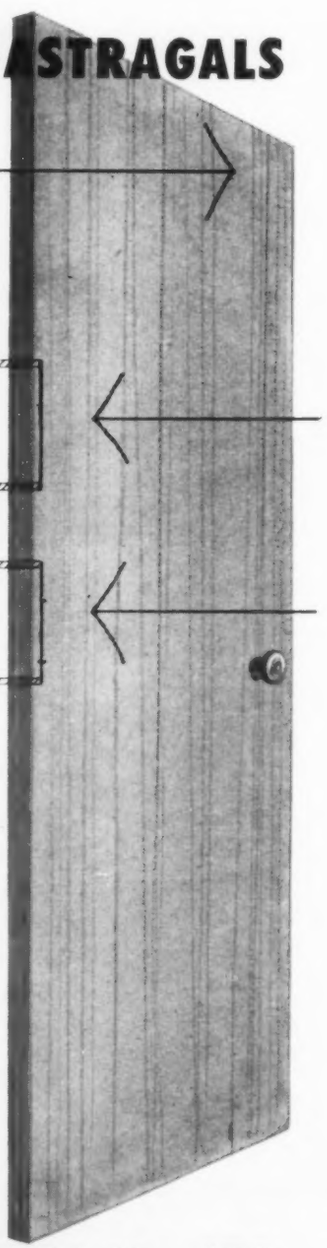
(*Continued on page 258*)

* For ARCHITECTURAL RECORD'S latest Building Types Study on Social and Recreation Buildings, see pages 146–168.

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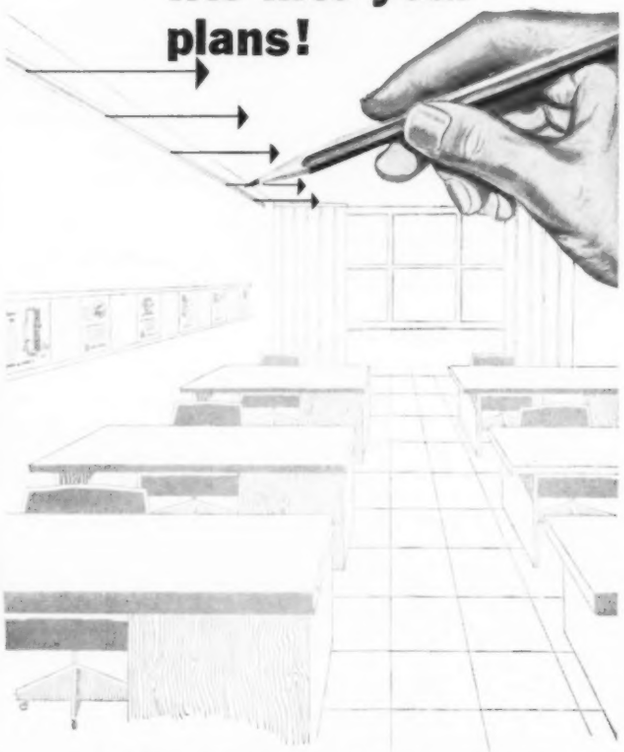
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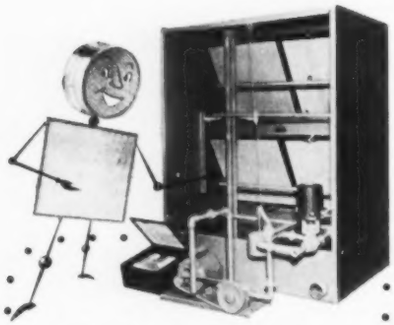
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Automatic fire control
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FAR-AIR Self-Washing filters give you more efficient, more dependable service. That's because FAR-AIR's exclusive herringbone-crimp media design permits progressive loading and free air flow. Find out today about completely *automatic* air filtration.

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Address _____

THE RECORD REPORTS

City Building

(*Continued from page 254*)

5. The fact that almost all large cities, and a substantial percentage of the smaller ones, now have an official city planning commission and a zoning board means that forethought is being increasingly given to community needs, including the planning ahead for future public buildings and public works. This movement has been aided by the fact that since World War II Congress has appropriated $92 million in loans for use by state and local governments in planning for their future development. It is estimated that when the Eisenhower administration took over there was a backlog of $6.2 billion worth of Federal, state, and local plans already blueprinted.

6. Still another reason for optimism is the increasing concern of local and national business and civic organizations with the building of better cities. Many of these bodies are serving as a check on foolish expenditures and a spur to worth-while community improvements.

7. I have made no comment on the highly controversial subject of the part that government — national, state, and local — is playing and might play in the improvement of housing conditions for families of low income and in aiding the cities to reclaim and redevelop their slums and blighted areas. But I am hopeful that the Eisenhower administration will develop a sound middle-of-the-road policy that will get the backing of Congress. In this connection, addressing the National Association of Housing Officials in Milwaukee on October 15, Administrator Albert M. Cole, of the Housing and Home Finance Agency, described slums as "economically unbearable and socially intolerable," and declared his conviction that provision of decent housing of low-income slum dwellers is, first of all, a responsibility of the local community and of private industry. But, said the Administrator, "under the present demands placed on local resources, I do not see how in most cities housing for such families can be provided in sufficient quantity without some subsidy aid from the Federal government."

The Employment Aspect

Though not of immediate sales value, there is another aspect of the huge lump

(*Continued on page 262*)

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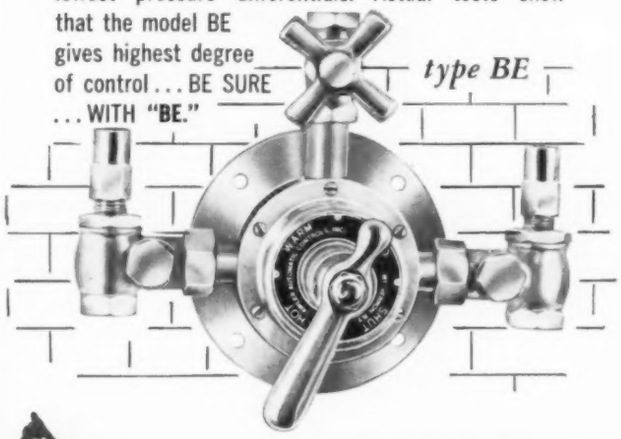
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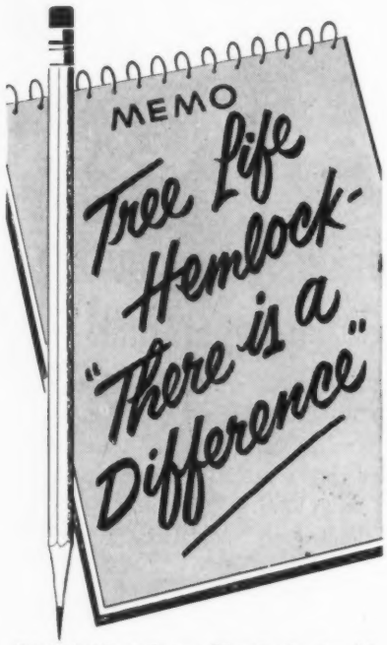
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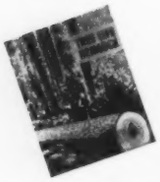
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THE RECORD REPORTS

City Building

(*Continued from page 258*)

of building construction that may be worth pursuing. This is its potentiality for employment and unemployment. For it is to the construction industry that the nation looks for salvation — which is work — when depression comes. In the '30s it was to the public works segment of that industry that all eyes turned.

In the present era, of course, one should never mention "depression" without giving instant verbal assurance that such a disaster is no longer possible or at least is not to be thought of. But perhaps we should occasionally think of it — in order to avoid it.

Avoiding "The Next Time"

Last time public works was expected to prime the pump and carry the load until private construction and industry could get rolling. But what was done was much too little and far too late. Next time — or in order to avoid a next time — *all* construction must be maintained — and increased if possible. It must maintain its present annual volumes in order to maintain its own employment — let alone provide additional employment.

"Policies for the Control of Public Works" is the title of an article in the October 1953 issue of *The American City* by William Stanley Parker, prominent Boston architect and consultant on public works planning. Mr. Parker advocates Federal public expenditures consciously fluctuating counter-cyclically to offset the fluctuation in private enterprise. For local public works he recommends "a policy of stabilization based upon advance programming of needed projects and the building up of long-term reserves in years of activity, available for the financing of projects when conditions begin to slack off, without adding tax rate burdens just when tax collections are likely to slacken also."

The construction industry has, I venture to suggest, a challenging opportunity to advance both its own interests and the public welfare by studying proposals such as this and by helping to make public construction an increasingly effective factor in the building of finer cities, towns and villages and — in combination with private construction — in the maintenance of a high level of employment, prosperity, and general welfare.

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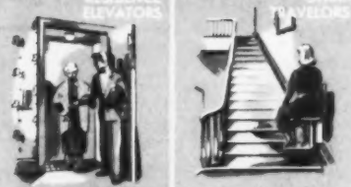
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THE RECORD REPORTS

(*Continued from page 252*)



STUDENT UNION FEATURES SCULPTURED BRICKWORK

Sculptor Charles Umlauf has designed for the University Baptist Student Union Building at Austin, Tex., a decorative sculpture of molded brick in what is believed to be the first such use of the material.

The original design was done in clay, from which Mr. Umlauf made a four-piece plaster casting. The mold was then taken to the brick plant, where the clay was extruded and pressed into the casting. Wooden spacers were used to obtain the proper mortar joint. The pieces were then kilned. Mr. Umlauf supervised the laying of the brick and finished off the sculpture with stone cutters.

The $200,000 building was designed by Carlton Brush, architect, with J. Robert Buffler as associate.

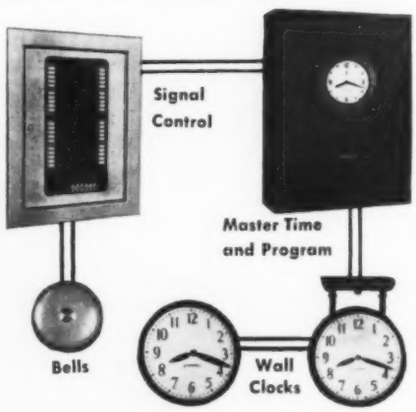




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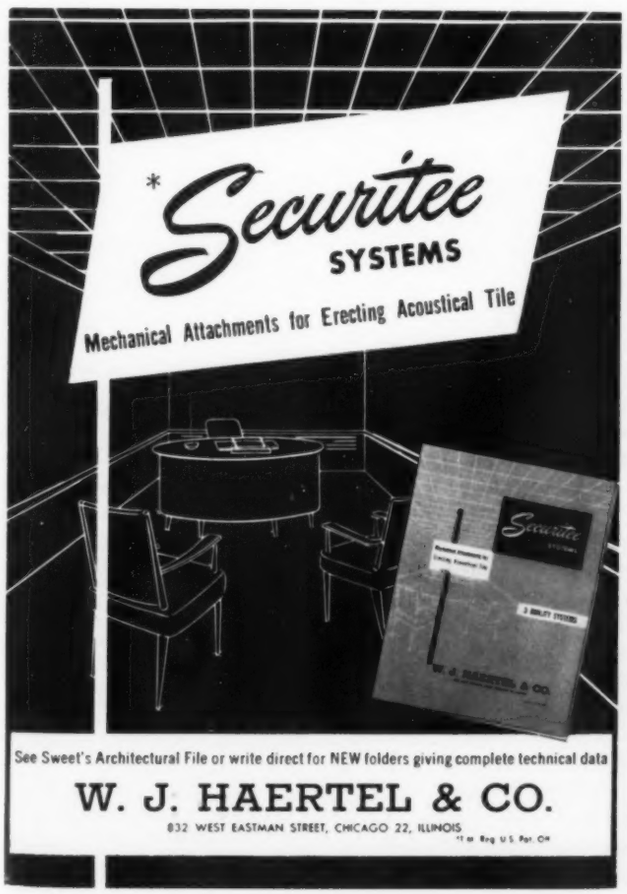
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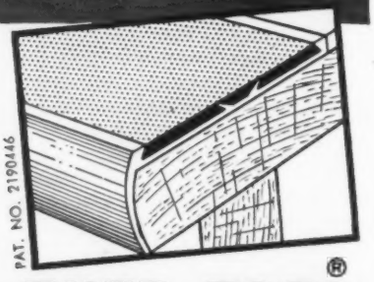


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REQUIRED READING

(*Continued from page 48*)

technical virtuosity of our times. To dismiss these lightly is to ignore the guts, which must be healthy for the skin to be comely.

One more criticism; what of the dispersed industries which dot such a state as Mississippi and introduce the problems of the mechanical age into, not an urban, but a *rural* environment? What happens when the entire countryside becomes a factory-scape? To a traveler in the U. S. A. that becomes an important trend; the expanding cities, true, are another; but can we consider the one only? Business economics, military necessity, and rapid personal transportation and communication are rapidly wiping out the differences which used to distinguish the bucolic and the urban.

COLEAN (*Continued from page 46*)

scurry off in all directions, knocking buildings down, pouring miles of concrete from here to back again, creating new slums, raising new wind-mills. . . . A clear objective means a clear notion about how we want to live and, perhaps, with the H-bomb around, how we want to die."

There are, of course, many things said which can be argued differently in detail. For example, Colean makes much of metropolitan political integration, and cites the consolidation of New York's five boroughs as the outstanding example. One wonders, however, how far such a process should go: Yonkers and Mt. Vernon are contiguous and indistinguishable on the Westchester side, Jersey City, Hoboken, Bayonne are no different than Queens. The areas between these and White Plains, Newark, are filling up. Where does one stop? And why is the remedy to the evil of gigantism, which is what one wishes to escape, with its attendant municipal corruption and over crowded schools, greater gigantism, greater opportunity for corruption and worse schools? Metropolitan area-wide planning and control is undoubtedly needed, but not at the price of being overtaken by Big City Government as it now exists.

Colean's greatest omission is his failure to say a word about the esthetics of urban renewal. This is odd, for his early F.H.A. pamphlet "Modern Design," Technical Bulletin No. 2, was the only intelligent architectural piece ever got-

(*Continued on page 274*)

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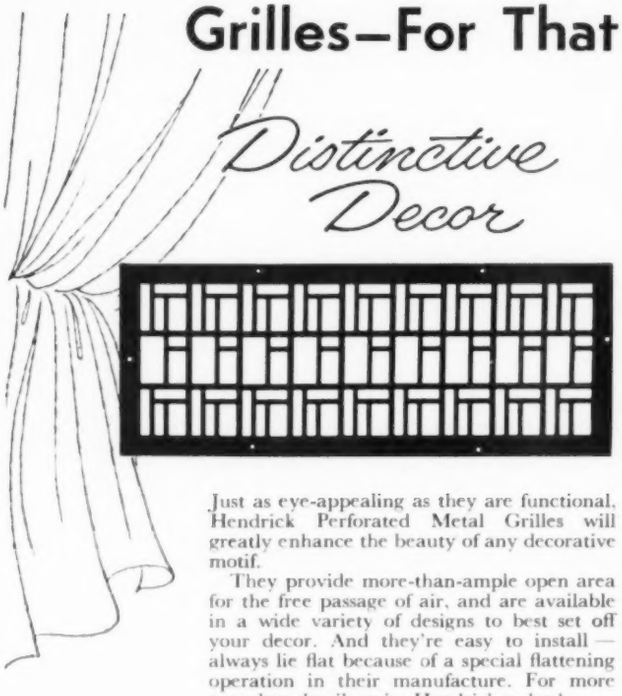
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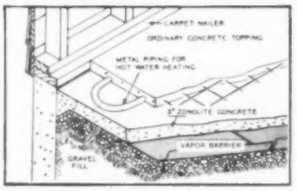
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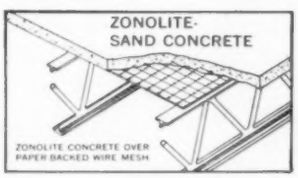
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see catalog $\frac{31a}{Bo}$
in Sweet's File

REQUIRED READING

(*Continued from page 270*)

ten out by that organization. It would have completed "Renewing Our Cities" had he made it clear that physical renewal is not enough, that to the others to re-establish a city in Time and Space must be joined the fifth dimension of Commodity, Firmness and Delight.

NEW SMALL HOUSES

The New Small House. By F. R. S. Yorke and Penelope Whiting. The Architectural Press (London, England) 1953. 7 by 9¼ in. 144 pp. illus. 25s net.

The postwar period has been one of rapid building the world over. The major problem has been housing the low income groups of bombed-out areas. This book, containing a comprehensive group of illustrations and photographs of small houses, housing developments, and even a trailer and a house boat, deals mostly with this problem as it affects England.

F. R. S. Yorke, an architect working on one of the most important of the New Town developments, Harlow, finds in his survey no clear school of thought in postwar small house architecture — is disappointed to find such a lack of adventure. "Not very many of the houses in this book have an appearance that expresses a new way of living, or the use of new materials . . ."

On the brighter side — "The overall standard of house planning is a much better one than was ever reached by the local authority . . . before the war."

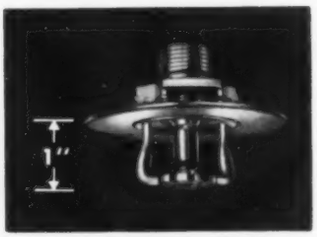
The New Small Houses is an interesting study that deals quite frankly with the problems that British architects in particular must face — scarcity of materials and government control. "It is a pity that local authority housing sometimes suffers because the amount of original thought is scaled down to range with the reduced fees permitted by the Ministry of Housing and local government and it is clear that a number of architects must give a great deal of thought to house design simply for the enjoyment they get out of it." — M. Blake

REMODELING OLD ROOMS

Old Rooms for New Living. By Narcissa Chamberlain. Hastings House Publishers, Inc. (41 E. 50 St. New York, N. Y.) 1953. 7 by 10 in. 130 pp., illus. $4.50.

This book, generously illustrated with fine photographs by Samuel Chamberlain, shows how old rooms of Colonial vintage can be adapted for gracious living in the twentieth century.

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To solve any space condition, specify

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For correct air distribution to suit any space condition, AGITAIR square and rectangular diffusers have no equal. Custom-designed with built-in diffusing vanes, in a wide variety of louver patterns, they provide blows in 1, 2, 3 or 4 directions without use of blank-offs. AGITAIR diffusers need not be centrally located in the area to be served.

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New 34-page Type R Catalog reveals how correct air distribution is simplified by AGITAIR. Contact your local AGITAIR representative, or write us direct for your free copy.

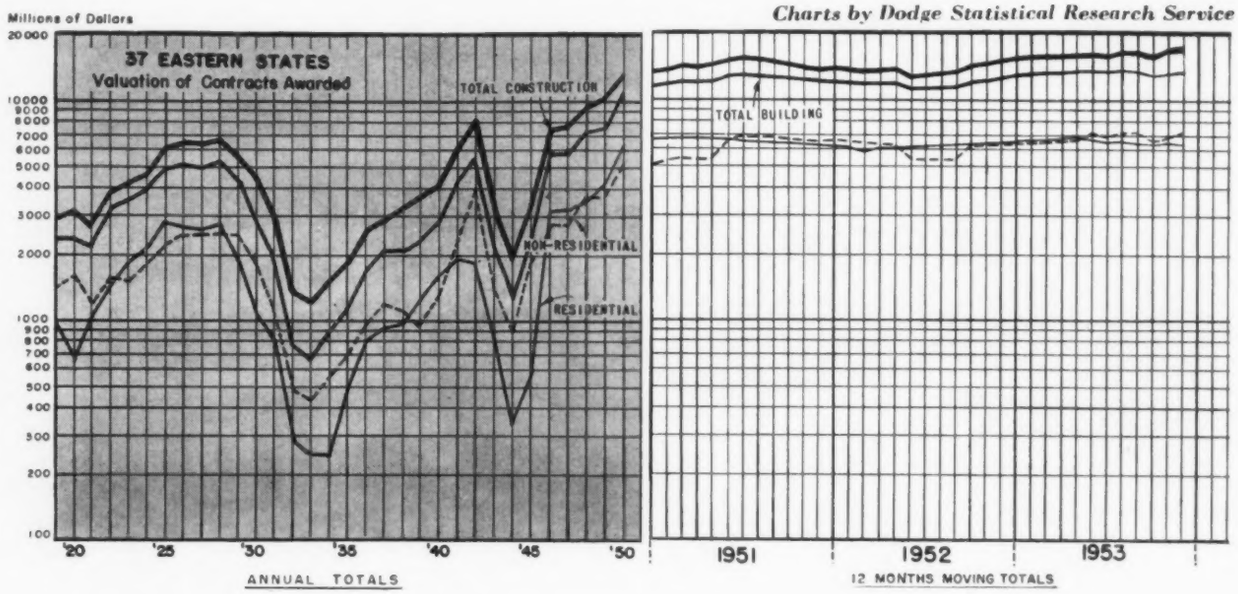


AIR DEVICES INC.
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AIR DIFFUSERS • FILTERS • EXHAUSTERS

CURRENT TRENDS IN CONSTRUCTION

Charts by Dodge Statistical Research Service



RECORD CONTRACT LEVELS MAINTAINED

Construction activity in the closing months of 1953 was continuing at record highs. November contract awards as reported by F. W. Dodge Corporation showed an increase of 12 per cent over November 1952, and total contracts for the first eleven months exceeded 1952 by five per cent.

Non-residential building work continued active, showing a 33 per cent increase over November 1952. Leaders in this category were:

	November '52	November '53
Social & Recreational Buildings	**$10,949,000**	**$24,214,000**
Commercial Buildings	**84,491,000**	**101,392,000**
Manufacturing Buildings	**117,431,000**	**232,218,000**
Educational & Science Buildings	**116,936,000**	**140,283,000**

Residential construction in November declined slightly from 1952, led by a drop in apartment contracts. However, the total valuation of residential work for the first eleven months was only three per cent under 1952.

Total Dodge construction contracts for the first eleven months of 1953 stood at $16,143,699,000 as compared with $15,307,552,000 in 1952.

SOCIAL & RECREATIONAL BUILDING* 1947–1953

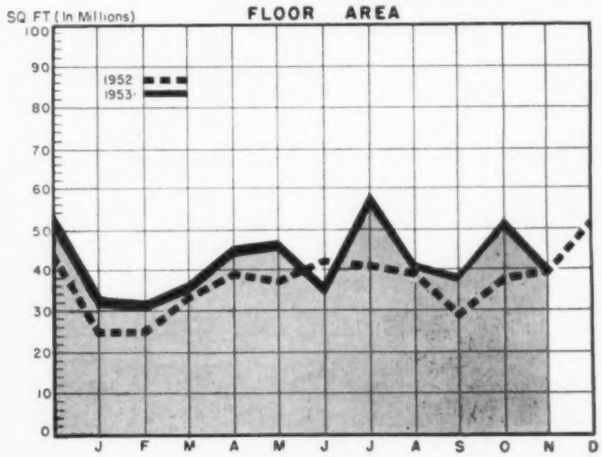
F. W. Dodge Contracts Awarded — Millions of Dollars (37 Eastern States)

Year	Annual Total	Monthly Average	Year	Annual Total	Monthly Average
1947	122.0	10.2	1950	261.3	21.8
1948	232.4	19.4	1951	136.6	11.4
1949	222.0	18.5	1952	153.4	12.8

1952				1953			
Jan.	8.4	July	16.5	Jan.	10.6	July	29.6
Feb.	5.9	Aug.	11.6	Feb.	13.4	Aug.	20.0
Mar.	7.6	Sept.	12.3	Mar.	16.2	Sept.	17.2
Apr.	10.5	Oct.	15.8	Apr.	24.9	Oct.	19.9
May	17.1	Nov.	10.9	May	18.5	Nov.	24.2
June	20.4	Dec.	16.3	June	13.3	11 mos.	207.9

* See Building Types Study No. 206, pp 146 to 168

NONRESIDENTIAL BUILDING (37 EASTERN STATES)



RESIDENTIAL BUILDING (37 EASTERN STATES)

